

OFFICE FOR iPad:  
HOW GOOD IS IT?

MACBOOK PRO  
VS MACBOOK AIR

# Macworld

www.macworld.com

July 2014

15 PAGES OF TIPS

## iOS 7: BEYOND THE BASICS

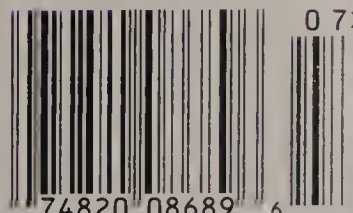
64 Things Every  
Savvy iPhone &  
iPad User Should Know



INSIDE

THE BEST MAC ACCOUNTING APPS

\$6.99 U.S.



0 7>

0 74820 08689 6

You like the way it looks.  
You'll love the way it feels.



The award-winning design, quality craftsmanship and unprecedented performance of a Big Ass Fan® are always in style.

Hidden behind a seamless fit and finish, Haiku's revolutionary motor features Whoosh®, a proprietary algorithm that simulates a natural breeze to keep you feeling up to 40% cooler\*. This Big Ass Fan is recognized by *Popular Science* as the world's quietest ceiling fan and rated by ENERGY STAR® as the world's most energy efficient. With 16 unique brightness settings and a digital dimmer, Haiku's patent-pending LED module delivers 80% greater efficiency than traditional bulbs over a lifespan of 50,000 hours.

---

Visit [haikufan.com/OFFER](http://haikufan.com/OFFER) and use promo code **MW714** to receive a free Haiku® info kit.

---

[HAIKUFAN.COM/OFFER](http://HAIKUFAN.COM/OFFER) 877-835-9115

 **BIG ASS**  
FANS  
No Equal

\*Human thermal sensation to air movement frequency, Yizai Xia, Rongyi Zhao and Weiquan Xu (2000)





42

ON THE COVER:  
PHOTOGRAPH BY MARK JOHANN

- COVER STORY
- 42 **iOS 7: Beyond the Basics**  
Here are 64 practical things that we think every savvy iOS user should know how to do.
- FEATURE
- 60 **Office for iPad**  
Microsoft Excel, PowerPoint, and Word have come to Apple's tablet at long last. Read our reviews.
- OPINION
- 5 **From the Editor's Desk**  
Some pundits say Apple needs to deliver a smartwatch. But why?
- MACUSER
- 10 **MacBook Pro vs. MacBook Air**  
Senior Contributor Rob Griffiths tells how he chose his new laptop.
- 12 Connect Macs via Thunderbolt  
14 Heavyhanded *Haunted Empire*  
16 The Best Portable Hard Drives  
18 Best of Macworld/iWorld 2014  
**PLUS: Hot Stuff 28**
- 20 **Mac Reviews**  
Software and hardware for Macs.
- iOS CENTRAL
- 30 **Wall-to-Wall Apple**  
How iOS could make its way into and throughout your home.
- 32 Apple Acquisition Hints at Future Improvements to Siri  
34 Retina Model Replaces iPad 2  
36 iPhone Cases: World Travelers
- 38 **iOS Reviews**  
Apps and gadgets for iOS devices.

# July 2014



#### WORKING MAC

## 70 Mac Accounting Apps

QuickBooks dominates the field, but it now has some stiff competition.

- 74 Tech Tricks for Planning Meetings
- 75 MacBook in the Cloud

#### PLAYLIST

## 78 Is High-Resolution Audio Really Better?

The greater level of data detail may not make an audible difference.

- 80 Ask the iTunes Guy
- 82 Amazon's Fire TV Aims to Meet or Beat Apple TV



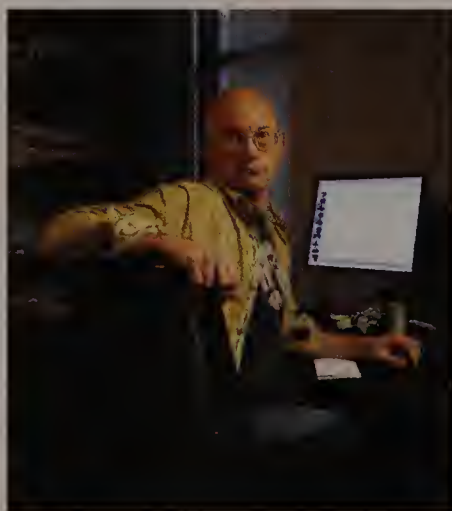
#### HELP DESK

## 84 Mac OS X Hints

Zap 1Password duplicates, encrypt PDFs from Preview, and more.

## 86 Mac 911

Speed a slow iPhoto library, create quick Mac reminders, and more.



#### BACK PAGE

## 92 The Setup

Writer and teacher Clay Shirky details the tech gear he depends on.

Multimedia at Macworld.com



### Video: Siri Tips

Macworld's Dan Miller explains 16 things you should know how to do ([go.macworld.com/siri16](http://go.macworld.com/siri16)).

### We also recommend:

Video: Custom Lock Screens for iOS Devices ([go.macworld.com/lock](http://go.macworld.com/lock)).

Video: Add Notifications to Reminders ([go.macworld.com/notifications](http://go.macworld.com/notifications)).

Podcast: Apple's Past, Present, and Future ([go.macworld.com/appleppf](http://go.macworld.com/appleppf)).





**BUILT TO  
TAKE YOUR  
PHONE TO  
HELLO  
AND BACK.**

**Matthew Mullen, Firefighter III**



Pelican ProGear™ Protector and Pelican ProGear™ Voyager cases are available for the Apple iPhone® 5s and the Samsung Galaxy S® 5. For more information visit [Pelican.com/mobile](http://Pelican.com/mobile), an AT&T® retailer or [att.com](http://att.com).

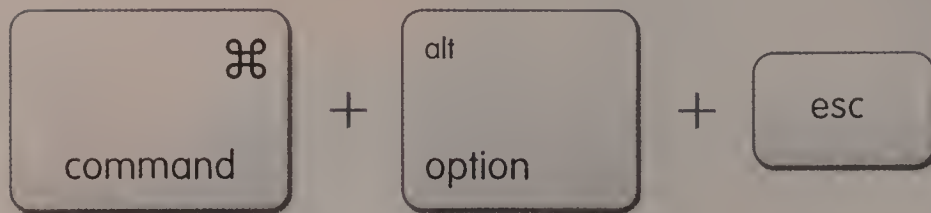
Firefighters know. Pelican's been building cases to protect their high-tech gear for over 35 years. Now, everything we've learned has been built into our new line of rugged, smartphone cases for the Apple iPhone® 5s and Samsung Galaxy S® 5, available only at AT&T®. Best of all, they're backed by Pelican's legendary lifetime guarantee: You break it, we replace it...forever.™ With Pelican, you're ready to put out those everyday fires.

Exclusively by

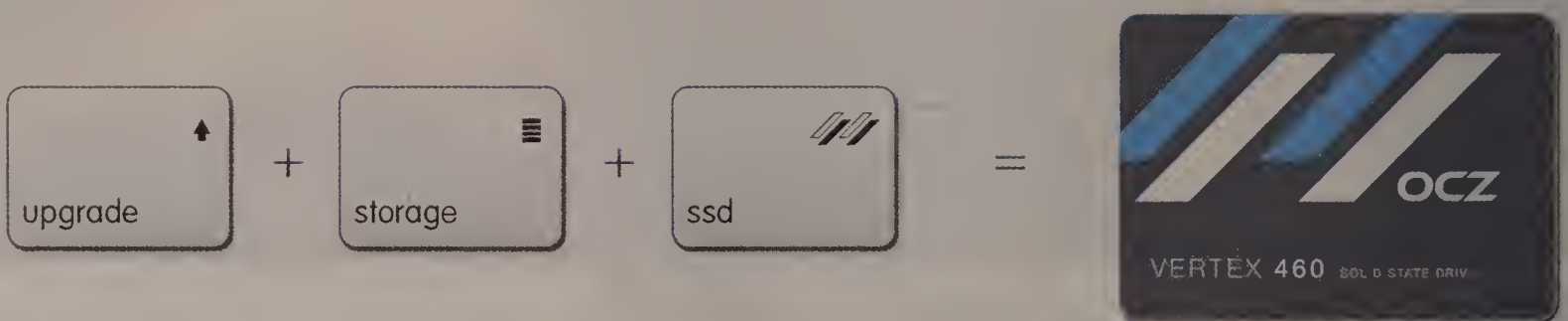


Apple and iPhone are registered trademarks of Apple Inc. Samsung and Galaxy S are registered trademarks of Samsung Electronics Co., Ltd. AT&T and the AT&T Logo are registered trademarks of AT&T Intellectual Property, Inc. All other trademarks are registered and/or unregistered trademarks of Pelican Products, Inc., its affiliates and/or subsidiaries.

# Tired of Force Quitting?



## Use a better solution.



Say good bye to beach balls and take your system performance to the next level with OCZ's newest Vertex SSD Series. Stop waiting for your hard drive to load and get a faster and more responsive computing experience with Vertex 460's award-winning performance, endurance, and easy integration. May you never have to wait for your data again.

- Up to 545 MB/s • Up to 95,000 IOPs
- Available in 120 GB - 480 GB
- OCZ Barefoot 3 M10 Controller
- Toshiba 19nm Multi-Level Cell (MLC) NAND



## Apple Is Not Here to Entertain You

Some pundits claim that Apple is doomed without a smartwatch. Why do they say such things?

**A**pple has only “60 days left to either come up with [an iWatch] or they will disappear,” analyst Trip Chowdhry told CNBC in March. The company “will become a zombie if they don’t come up with an iWatch,” he predicted.

It’s easy to point and laugh, because what this analyst said was stupid. But it’s also worthwhile to think about why people who make such proclamations regarding Apple (and the tech industry as a whole) are so clueless.

Reason number one: People want to be entertained. For the past few years, the tech industry has been supremely entertaining. New products, even new product categories, that change the way we live? Especially exciting. The iPod, iPhone, and iPad have definitely been so. Steve Jobs was a master of converting the slow, often dull march of technological progress into spectacles in which world-changing innovation seemed to take place live on stage.

Reason number two: The financial industry has a peculiar mindset. If I told you that your company would be comfortably profitable for the next 20 years, you’d probably feel relieved, and confident about paying for your kids’ college tuition and planning your retirement. But financial types don’t think that way—they want to see growth. Static (albeit massively profitable) companies are boring.

Put those reasons together, and the answer is clear: A bored financial analyst setting a 60-day Apple Doom Countdown is like a little kid holding her breath until she gets what she wants.

### WHAT ABOUT WEARABLES?

If you’re desperate to see a new tech product category that will blossom into something interesting, wearables is a



**Apple’s future success or failure will depend on the iPhone (and to a lesser extent on the iPad), not on a smartwatch.**

pretty good bet. (So are car tech and home tech.) And if you’re desperate to find sources of growth for tech companies, why not focus on new categories?

Unfortunately, industry observers seem to have lost their perspective.

IDC reported that 1 billion smartphones were shipped in 2013, up 38 percent from the previous year. IDC also predicted recently that the wearables market will reach 112 million units shipped in 2018. In other words, in four years the wearables market might grow to become one-tenth the size of today’s smartphone market in units shipped. And presumably the average selling price of wearable items will be a fraction of that of smartphones.

Wearables, while dramatic and exciting, will never rival smartphones in market size. The same goes for smart TV boxes. Those are interesting, fun areas of technological change. But the smartphone will remain the big dog in the tech world for years to come. Apple’s future success or failure will depend on the iPhone (and to a lesser extent on the iPad), not on a smartwatch.

### THAT’S (NOT) ENTERTAINMENT

So why do we want Apple to make an iWatch? It’s fun to see new products from Apple. We want to try one and find out if we like it. We want to buy new gadgets. We want to complain about how Apple got it wrong. Or maybe we work in the financial sector and perceive everything in the context of growth.

Apple does not assess the boredom of the public or consult the chattering of financial analysts before deciding on its product strategy. Apple makes products, it makes them carefully, and it designs them to sell in large quantities and to rack up massive profits. The iPhone line has been boring for a while now, and the Samsung Galaxy S line is boring nowadays, too. All the gigantic smartphone surprises are over, and now the game is all about the constant refinement of these remarkable devices that are changing lives the world over.

If Apple and Samsung were comedians trying to sell tickets to their stand-up shows, they would be in dire trouble. But they’re electronics companies creating phones, and between them they make most of the profits in the smartphone market. Both of them will be boring all the way to the bank—and 60 days from now, no matter what happens with wearables, things will be pretty much the same. ■



neptor™

WHEN THE MOMENT  
ARRIVES  
WILL YOU  
Be Ready?



MADE FOR  
SMARTPHONE

MADE FOR  
TABLET



NP056K

NEPTOR  
PORTABLE BATTERY CHARGER



Charge smartphone  
& tablet  
at same time



Premium grade  
cells and  
microchips



Fast charging ports:  
2.1A & 1.0A



Bonus LED  
flashlight



Provides 4 full  
charges to  
most smartphones



Includes  
color matching  
USB & lanyard cables



Scan. Explore. Neptor.com/knows

# Macworld

SENIOR VP/EDITORIAL DIRECTOR Jason Snell

EDITORS Philip Michaels, Dan Miller

DESIGN DIRECTOR Rob Schultz

## Editorial

SENIOR EDITORS Christopher Breen, Dan Frakes, Roman Loyola, Dan Moren

ASSISTANT MANAGING EDITOR Sally Zahner

ASSOCIATE EDITOR Serenity Caldwell

ASSISTANT EDITOR Leah Yamshon

SENIOR COPY EDITORS Steven Gray, Tracy Yee-Vaught

COPY EDITORS Sushmita Mitra, Gail Nelson-Bonebrake

SENIOR CONTRIBUTORS Adam C. Engst, Glenn Fleishman, Lex Friedman, Rob Griffiths, John Gruber, Jim Heid, Andy Ihnatko, Joe Kissell, Ted Landau, Rick LePage, Ben Long, Kirk McElhearn, John Moltz, John Siracusa, Derrick Story

## Design

SENIOR DESIGNER Kate Godfrey

DESIGNERS Liz Marken Fiorentino, Yasmin Vahdatpour

DIGITAL IMAGING SPECIALIST Mike Hornick

CONTRIBUTING PHOTOGRAPHER Peter Belanger

## Macworld Lab

DIRECTOR, MACWORLD LAB James Galbraith

EDITORIAL ASSISTANT Albert Filice

LAB INTERN Michael Smith

## Video

SENIOR PRODUCER Zack Stern

VIDEO EDITORS Dan Masaoka, Victor Schwanke

### HOW TO CONTACT MACWORLD SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at [www.macworld.com/customer\\_service](http://www.macworld.com/customer_service) or [service.macworld.com](http://service.macworld.com). You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, report a missing or damaged issue, get the answers to frequently asked questions, and much more.

To start subscribing, visit [subscribe.macworld.com](http://subscribe.macworld.com).

**U.S. MAIL** Macworld Subscriptions Department  
P.O. Box 37781, Boone, IA 50037-0781  
(If you are writing about an existing account, please include your name and address as they appear on your mailing label.)

**EMAIL** [subhelp@macworld.com](mailto:subhelp@macworld.com) (Send your full name and the address at which you subscribe; do not send attachments.)

**FAX** 515/432-6994

**PHONE** 800/288-6848 from the U.S. and Canada,  
515/243-3273 from all other locations

The one-year (12-issue) subscription rate is \$34.97; the two-year rate, \$59.97; and the three-year rate, \$79.97. Foreign orders must be prepaid in U.S. funds, add \$10 per year for postage to Canada or \$20 per year for air freight to all other countries. Checks must be made payable in U.S. currency to *Macworld*. Please allow 3 to 6 weeks to receive your first issue or for changes to be made to an existing subscription.

**SUBSCRIBERS:** If the Postal Service alerts us that your magazine is undeliverable, we have no further obligation unless we receive a corrected address within one year.

### MACWORLD EDITORIAL

The editors of *Macworld* welcome your tips, compliments, and complaints. Some stories and reviews from past issues can be located at [www.macworld.com](http://www.macworld.com). We are unfortunately unable to look up stories from past issues; recommend products; or diagnose your Mac problems by phone, email, or fax. You can contact Apple toll-free, at 800/538-9696, or visit the company's website, at [www.apple.com](http://www.apple.com).

### HOW TO CONTACT MACWORLD STAFF

Our offices are located at 501 Second Street, 6th Floor, San Francisco, CA 94107; phone, 415/243-0505; fax, 415/243-3545. *Macworld* staff can be reached by email at [firstinitial@macworld.com](mailto:firstinitial@macworld.com).

### BACK ISSUES OF MACWORLD

Starting with the March 2003 *Macworld*, back issues can be downloaded in digital format, from [www.zinio.com](http://www.zinio.com) (\$6.99, Mac OS X 10.1 or later required). Print-format back issues (subject to availability) cost \$8 per issue for U.S. delivery, and \$12 for international delivery; prepayment in U.S. currency to *Macworld* is required. Send a check or money order to *Macworld* Back Issues, P.O. Box 37781, Boone, IA 50037-0781; or phone 800/288-6848 (U.S. and Canada) or 515/243-3273 (all other locations).

### REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from *Macworld*. Send email to [permissions@macworld.com](mailto:permissions@macworld.com); please include a phone number.

### MAILING LISTS

We periodically make lists of our customers available to mailers of goods and services that may interest you. If you do not wish to receive such mailings, write to us at *Macworld*, P.O. Box 37781, Boone, IA 50037-0781, or email us at [subhelp@macworld.com](mailto:subhelp@macworld.com). Please include a copy of your mailing label or your full name and address.

### MACWORLD I|WORLD CONFERENCE

As the flagship sponsor of the Macworld I|World conference, *Macworld* encourages all subscribers to attend this exciting annual industry event. For information, visit [www.macworldworld.com](http://www.macworldworld.com).

### PUBLICATION INFORMATION

July 2014, Volume 31, Issue 7

*Macworld* is a publication of IDG Consumer & SMB, Inc., and International Data Group, Inc. *Macworld* is an independent journal not affiliated with Apple, Inc. Copyright © 2014, IDG Consumer & SMB, Inc. All rights reserved. *Create*, *Playlist*, *Moc User*, *Macworld*, and the Macworld logo are registered trademarks of International Data Group, Inc., and used under license by IDG Consumer & SMB, Inc. *Apple*, the Apple logo, *Moc*, and *Mocintosh* are registered trademarks of Apple, Inc. Printed in the United States of America



INTERNATIONAL DATA GROUP CHAIRMAN OF THE BOARD  
Walter Boyd

IDG COMMUNICATIONS, INC. CEO  
Michael Friedenber



# UDDERLY FANTASTIC WEB HOSTING

only  
**\$56/yr.**

NO BULL MONEY-BACK  
GUARANTEE

**Creating a website is easy with FatCow.**



**Fast, Secure & Reliable**

Our robust hosting platform is the perfect home for your business or personal website.



**Free Domain Name**

Signing up means you get your very own domain name for FREE with your hosting account! It's moovelous!



**Build a Site in Just 10 Minutes**

Create a website with just a few clicks, using a variety of dynamic themes and templates.



**It's Easy Being Green**

Web hosting is extremely energy intensive. At FatCow, we power our server farm with 100% wind energy.



**Free Advertising Credits**

Market your great new site with ad credits from Google™, Yahoo!™, and Facebook™.



**Friendly Moo Crew Support**

We're here to help. Our friendly Moo Crew is available 24x7 via phone, email and online chat.



**FatCow™**

**866-544-9343**

Visit us at **fatcow.com/macworld**



# The Original iPhone Film Festival

Do you have an iPhone, iPad or iPod touch? Then you have a film studio in your pocket!

Make a film 5 minutes or less and enter it for free in the premiere online event for iPhone filmmakers.

Accepting Submissions  
May 1st-Nov 30th

Win an iPad Air™ & other great gear!



Shoot

Edit

Upload

[originaliphonefilmfest.com](http://originaliphonefilmfest.com)

## Sponsors

**Macworld**

**FILMiC PRO**

**clip**

**in**  
action to media

**BOOM BANDIT**

**iStabilizer™**

**Movie★Slate™**

[iphonefilmmaker.com](http://iphonefilmmaker.com)

# Macworld

## IDG Consumer & SMB

PRESIDENT, IDG CONSUMER & SMB Bob Melk

EXECUTIVE ASSISTANT Christine Ebangi

SVP & COO Matthew Smith

SVP & GENERAL MANAGER, ONLINE OPERATIONS Gregg Pinsky

SVP & CHIEF CONTENT OFFICER, IDG COMMUNICATIONS, INC. John Gallant

SVP, HUMAN RESOURCES Patricia Chisholm

VP, DIGITAL ACCOUNT SERVICES Danielle Thorne

VP, BUSINESS DEVELOPMENT & DIGITAL MEDIA Bill Rigby

## Advertising Sales

VP, SALES Neil Dhanowa

COORDINATOR, SALES OPERATIONS Lauren Eckenfelder (415/975-2587)

ACCOUNT DIRECTORS Patrick Mortonson (415/243-3664);

Brian O'Rourke (630/785-3063);

Amy Singer (201/634-2317); Cody Widdes (415/974-7356)

SALES MANAGER Duane Hampson (415/978-3133)

ACCOUNT EXECUTIVES Jennifer Lam (415/978-3271);

Shari Redan (207/899-2099); Chrissy Schneider (415/978-3269)

## IDG Creative Lab

SENIOR MANAGER, MARKETING SERVICES Tina Marfori

ASSOCIATE EDITOR, CONTENT MARKETING Matthew O'Connell

PROGRAM MANAGER, CLIENT SERVICES Sherry Brecher

## Marketing

MARKETING MANAGER Sarah Donato

CONSUMER MARKETING MANAGER Randall Grilli

RESEARCH MANAGER Miguel Beteta Rodrigo

## Web Design

DIRECTOR, ONLINE DESIGN Sky Collins

WEB PRODUCER Ryan Medlin

## Technology

CTO, IDG COMMUNICATIONS, INC. Aaron Jones

SENIOR DIRECTOR, SOFTWARE ENGINEERING Thomas Alexander

CHIEF ARCHITECT Jim Hutson

PRINCIPAL SOFTWARE ENGINEER Justin Counts

SENIOR SOFTWARE ENGINEERS Alexis Barrera, Bill Cappel, Alejandro Germeños, Byron Halbower

QA ENGINEER Eric Pivnik

SENIOR DIRECTOR, IT & WEB OPERATIONS Sean Greathouse

SENIOR WEB OPERATIONS ADMINISTRATOR Andrew Trice

DIRECTOR, DIGITAL PRODUCTS Brandon Mahne

PRODUCT MANAGER Lauren Wakefield

## Production

DIRECTOR, PRODUCTION Nancy Jonathans

SENIOR PRODUCTION MANAGER Tamara Gargus

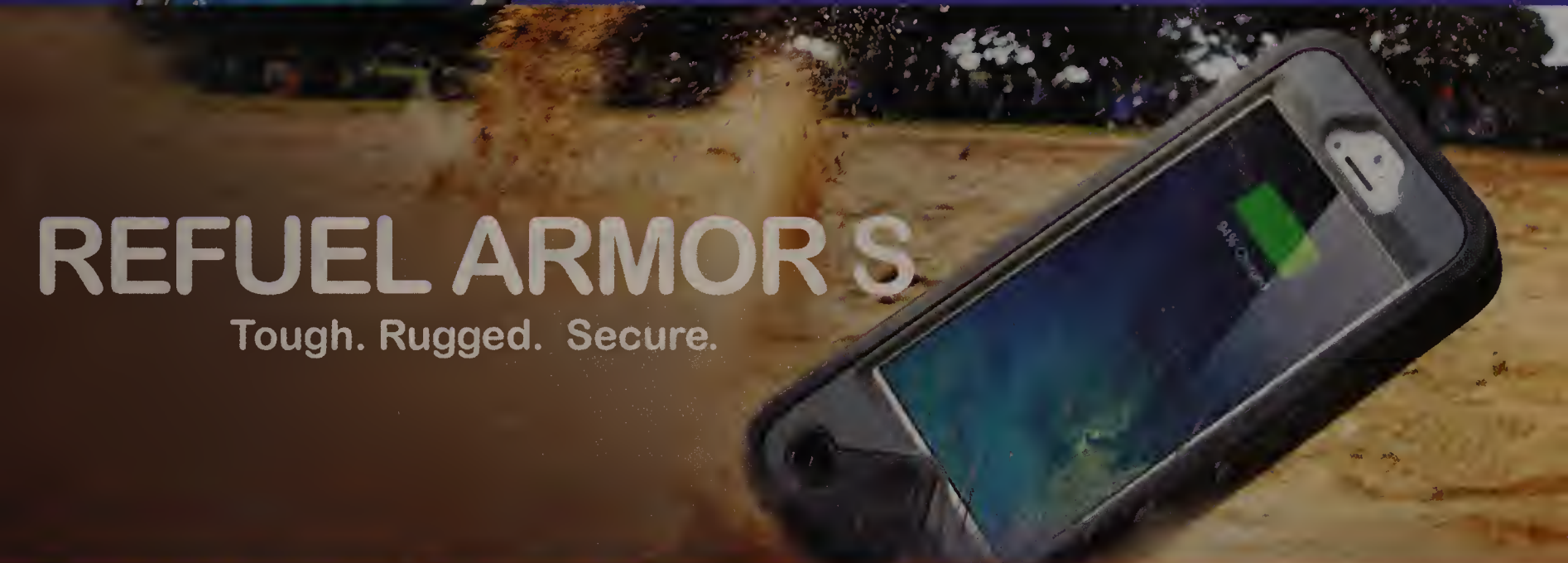






# REFUEL AQUA S

IPX8 100% Waterproof. Robust. Dustproof.



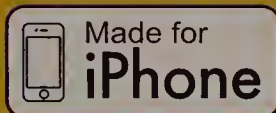
# REFUEL ARMOR S

Tough. Rugged. Secure.



# REFUEL FAMILY

Unlimited Power for your iPhone 5/5S.  
Interchangeable Battery modules.



iBattz range of Award Winning Refuel family of battery cases provides unlimited backup power for your iPhone 5/5S. You are only limited by the number of battery modules you can carry with you.

Each extra-slim, widely available interchangeable S3 19300 battery module provides a 2200 mAh of portable power for additional surf, download, stream and talk time. Enjoy the convenient Refuel Charger Kit that charges your portable battery modules at the same time separately.

Switch to the Refuel Aqua S if you need to charge and waterproof your iPhone. Switch to the Refuel Armor S if you need to protect your iPhone from knocks & drops.

**Refuel your life and upgrade to iBattz Mojo Refuel today!**

Available at: [BestBuy.com](http://BestBuy.com) / [Walmart.com](http://Walmart.com) / [SamsClub.com](http://SamsClub.com) / [Amazon.com](http://Amazon.com) / [OfficeMax.com](http://OfficeMax.com)

iPhone is registered trademark of Apple, Inc. All trademarks are registered to their respective owners.



**ibattz**





## MacBook Pro vs. MacBook Air: How I Made the Choice

Learn how one writer selected a new Mac laptop to replace his two aging machines.

BY ROB GRIFFITHS

**R**ecently I struggled with a distinctly first-world problem: I had too many computers.

There was my main iMac, which I loved. There was my “power” laptop, a mid-2010 15-inch MacBook Pro (with a 1680-by-1050-pixel display and a recently installed 750GB SSD), which I loved. And there was my “light” laptop, a mid-2012 11-inch MacBook Air, which I loved (and which replaced an older 11-inch Air). So what was the problem?

I didn’t travel often enough to justify owning two laptops. Generally I took the Pro when I needed the extra screen space and the more powerful (or so I thought) CPU; otherwise, I took the Air. But then I also had to remember which one held the files I required for each trip. It was a horrid setup, and it needed fixing.

My proposed solution: Sell the old laptops and replace them with one that combines a large pixel count, light weight, and a powerful CPU, yet is small enough to fit in most any bag. And I needed to keep the total cost under \$2000.

### THE CONTENDERS

I considered my options. Given that I’d tried an 11-inch Air and found its screen size wanting for some tasks, I ruled out that model. The 15-inch Retina MacBook Pro had a few deal-breakers. First, at 4.5 pounds, it’s a pound lighter than the 2010 version but about 3 pounds heavier than the 11-inch Air. Second, you can make a package only so small if it has to contain a 15-inch display. Third, I could afford only the entry-level Pro, and I wasn’t sure whether its 256GB drive would suffice.

That left the 13-inch MacBook Air and the 13-inch Retina MacBook Pro. I wavered between them quite a bit; one day I spent enough time at the Apple Store that I probably spoke to every single employee. The Air was light (at just under 3 pounds), whereas the Pro boasted faster graphics and a beefier CPU. Back and forth I went.

With the Air, I worried that I wouldn’t find the 1440-by-900-pixel display roomy enough. I didn’t have that concern with the 13-inch Retina Pro. Why? I intended

to use OS X’s “scaled” displays option, which lets the display act as though it has either 1440 by 900 pixels or 1680 by 1050 pixels of resolution. The latter setting would give me the same pixel count as my old 15-inch MacBook Pro, in a tidy 13-inch package. So I spent a lot of time looking at the 13-inch Pro’s screen in 1680 by 1050 (as well as in Retina mode); it seemed fine to my eyes.

Another factor: A 13-inch Air configured with upgraded RAM and storage space (and with the faster CPU) cost just \$150 less than an equivalent 13-inch Retina Pro. For that extra \$150, I’d get better graphics (Intel Iris versus Intel HD Graphics), and a notably faster CPU (a 2.8GHz Core i7 versus a 1.7GHz Core i7).

### THE DECISION

So that was that: I purchased the \$1999 13-inch Retina MacBook Pro, equipped with the 2.8GHz Core i7, 8GB of RAM, and 512GB of PCIe-based Flash storage. (The Apple Store even had that configuration in stock, which surprised me.)



I'm now carrying an extra pound (and a few inches of size) over my old Air, but saving more than 2 pounds (and many inches of size) over my old MacBook Pro. The 13-inch Retina Pro's compact dimensions should make it reasonably easy to use in an airline's coach section.

At the simulated 1680-by-1050-pixel resolution, the pixels are denser than on my 15-inch machine, but even with my aging eyes I can use it quite well: On certain websites I have to use ⌘+ (plus) to increase the size, but I like how much more space I have in comparison with Retina mode. When my eyes tire, I can use the in-between 1440-by-900 setting; when I want to read or browse a lot, I can set the machine back to Retina.

## PERFORMANCE TESTING

When you elect to use a "more space" screen mode, the system warns you that using scaled resolution may affect performance. That makes sense, as the Mac must work to create a resolution that doesn't exist natively on the display. But how much of a performance hit would I take for that? To answer that question and others, I ran some informal benchmarks on my laptops old and new, as well as on my mid-2011 iMac for comparison.

First I created a new user on each Mac. Then I rebooted, logged in to the new account, ran each benchmark two times, and averaged the results. I ran the resolution-dependent tests (GpuTest, Unigine Valley, and parts of Xbench) on the new Retina Pro at Retina and at 1680 by 1050; I also ran GpuTest and Valley in an 1152-by-720-pixel window, which was the largest I could fit on the 11-inch Air.

Some interesting tidbits:

**PCIe flash "hard drives" are incredibly fast:** The 13-inch Retina MacBook Pro finished miles ahead of my other Mac laptops, which use SSDs.

**Core i7 performance is improving:** The Haswell Core i7 processor in the new laptop was 30 to 60 percent faster than the Arrandale Core i7 in the 2010 MacBook Pro; it was also 15 to 30 percent faster than the Ivy Bridge Core i7 CPU in the 2012 MacBook Air.

My old "power" laptop wasn't so powerful in these tests. I expected the newcomer to trounce the old Pro, but I was surprised when the Air crushed it repeatedly, despite the old Pro's 2.66GHz CPU and discrete video card (versus the Air's 2.0GHz CPU and on-board video hardware).

## The 13-inch Retina MacBook Pro's compact dimensions should make it easy to use in an airline's coach section.

**Laptop graphics have come a long way:** At Retina resolution, the new MacBook Pro's frame rate on most tests was roughly twice that of the other laptops—even when the machines were working in windows of identical size.

Still, while the new laptop's results were impressive compared with those of its predecessors, it was nothing next to my nearly three-year-old iMac, which led the pack in all of my graphics tests.

**Scaled mode really does affect performance:** Unigine Valley and GpuTest showed a dramatic drop in graphics performance at 1680 by 1050. Not only

were there more pixels to move around during the tests, but those pixels were simulated, forcing the Mac to work harder.

Even so, the new laptop was graphically faster than either of my previous portables. (The 11-inch Air beat the 13-inch Retina MacBook Pro by one frame per second in

the GpuTest, but that's a wash.) And the drop-off wasn't evident when I was doing normal stuff such as working with the

Finder and apps; I saw only a minimal drop-off in Xbench's Quartz and UI scores in the 1680-by-1050-pixel mode. As long as I'm not using the new machine for doing OpenGL work or playing games, the impact on daily use is minor.

## WRAPPING IT UP

I've had my 13-inch Retina MacBook Pro for a couple of months, and it's an ideal replacement for my two old laptops. Even though it's slightly bigger and heavier than my old Air, I've gained a much faster Mac with not only a physically larger display but also more pixels (even in Retina mode). ■



# Using Thunderbolt to Connect Two Macs

We ran tests to see how Thunderbolt's file-transfer performance compares to that of gigabit ethernet.

BY JAMES GALBRAITH

**T**hunderbolt is both fast and flexible. While the original version is capable of bidirectional throughput at 10 gigabits per second on each of its dual channels, Thunderbolt 2 can reach a maximum of 20 gbps on a combined channel. The technology can transport PCIe, USB 3.0, FireWire, Mini DisplayPort, and gigabit ethernet data. And that's not all: You can daisy-chain up to six compatible devices on each Thunderbolt port on your Mac. With six available Thunderbolt 2 ports on the new Mac Pro, that adds up to a plethora of peripherals.

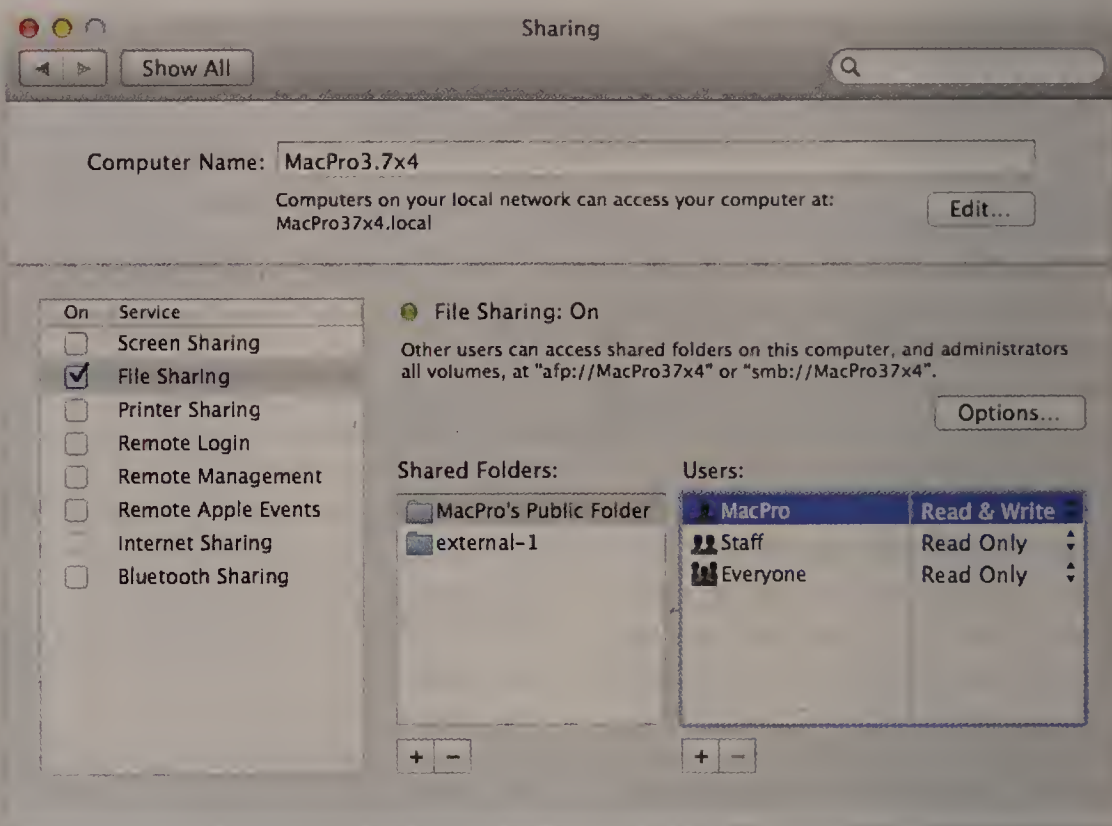
In Mavericks, Apple added the ability to create a 10-gbps connection between Macs via IP over Thunderbolt. Considering that Intel is planning to bring the same functionality to Windows computers for the first time (see page 13), Macworld Lab figured it was as good a time as any to find out just how well Thunderbolt Networking works.

## SETTING UP A DIRECT CONNECTION

The setup on a Mac is relatively simple.

**1. Set up file sharing:** Arrange for file sharing in *System Preferences* → *Sharing*. Be sure to record the username and password for each system.

**2. Connect the two Macs:** Attach a Thunderbolt cable linking the two Macs.



**READY TO SHARE** Before you can enjoy the benefits of Thunderbolt Networking, you have to set up file sharing. While you're in the Sharing preference, remember to write down the username and password for each system.

Open *System Preferences* → *Network* and choose *Thunderbolt Bridge* in the network interface list on the left side of the window. Grab the IP address.

If you click the *Advanced* button, you'll discover a set of tabs with additional options. Under the *Bridge Status* tab, you can see whether your Thunderbolt connection is active.

**3. Connect to Server:** Go to the

Finder and press ⌘-K (or select the menu command *Go* → *Connect to Server*). Enter the connection's IP address in the *Server Address* field and click *Connect*.

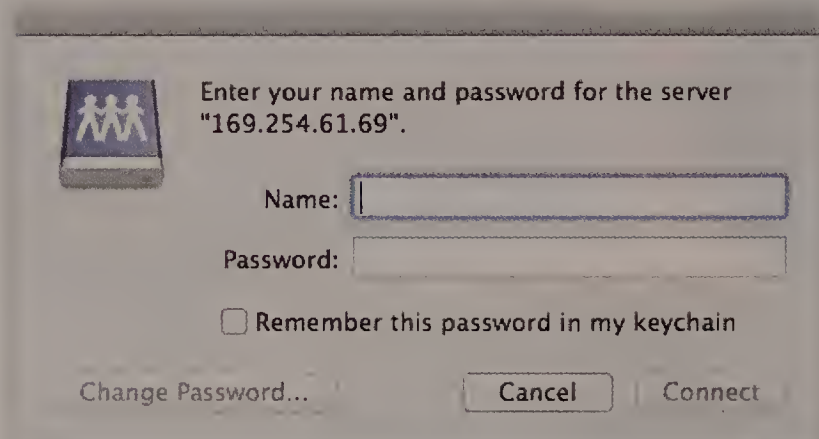
A dialog box will pop up, requesting that you type in the username and

password for the shared system. Enter that information, select the volume you want to mount, and click *OK*. If you want to see that mounted volume on the Desktop, go to *Finder* → *Preferences* and enable the *Connected Servers* checkbox in the *General* menu.

## BENCHMARK TESTS

When we tested two new Mac Pros over a gigabit network connection linked by a standard ethernet cable, we noted write and read speeds of just below 100 MBps for a 10GB file. When we copied a set of smaller files and folders, we recorded a write speed of 64 MBps and a read speed of 78 MBps.

The file-transfer speed increased when we disconnected ethernet and used IP over Thunderbolt. The speeds for our 10GB file jumped to 241 MBps (write) and 390 MBps (read). The results of our files-and-folders test were less impressive, with the Thunderbolt



**SIGN IN, PLEASE** Once you've established a Thunderbolt connection, you can log in to the shared system and then choose a volume to mount.



connection reaching a write speed of 133 MBps and a read speed of 243 MBps, but even so the scores were faster than those of gigabit ethernet.

Next we connected a LaCie Little Big Disk Thunderbolt (with two 512GB SSDs in a striped array) to one of the Mac Pros, and enabled file sharing on a volume on that drive. With the IP-over-Thunderbolt connection still in place, we mounted the shared LaCie volume on the other Mac Pro and ran our suite of tests again. The results weren't as fast as when we tested with a folder residing on the Mac Pros, but the differences were slim. With our 10GB file, the write speed was about

6 percent slower on the external drive share, while reads were about 12 percent slower. Writing our set of files and folders was about 25 percent slower in this external-share arrangement than working with a shared folder stored on one of the Mac Pros, and reading the files and folders was a little more than 10 percent slower on the external share.

Of course, you can always copy files from one Thunderbolt-equipped Mac to

another by using Target Disk Mode. When we ran our tests under that setup, all of the results were faster than the IP-over-Thunderbolt transfer speeds. The 10GB-file writes and reads were about 7 percent faster. On the files-and-folders write test, results were 83 percent faster, while the read test results were 21 percent faster. The downside of this configuration is that

you have to boot one of the computers into Target Disk Mode, making it essentially an external drive and thus unusable as a computer for the duration.

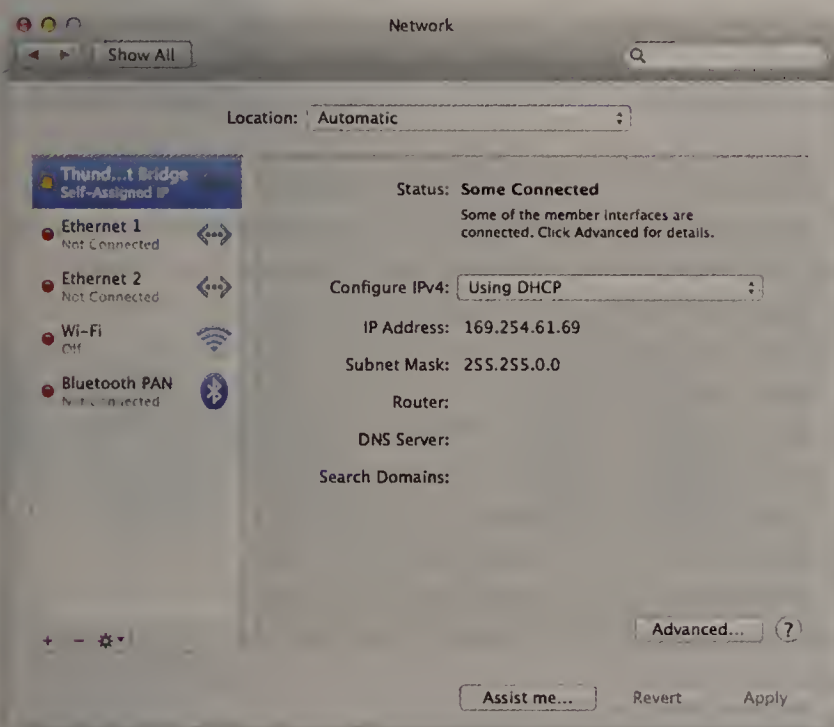
In our final test we connected the LaCie storage device to a Mac Pro directly over Thunderbolt and ran the benchmark suite

again. This configuration was by far the fastest we tested. The 10GB-file write speeds were nearly double those of the closest configuration, the Thunderbolt Target Disk Mode; the 10GB-file read speeds were 55 percent faster than those posted in Target Disk Mode. The files-and-folders results were 59 percent faster (write) and 77 percent faster (read).

Using a Thunderbolt network may not be as fast as using a directly attached

Thunderbolt drive, but if you are thinking of sharing files via the latter method you should take into account the number of steps it requires: You have to write the data to a drive, disconnect that drive, attach it to another Mac, and then copy the files from the drive onto the second Mac. Using a Thunderbolt network is certainly faster than using gigabit ethernet, at least. ■

**The file-transfer speed increased when we disconnected ethernet and used IP over Thunderbolt.**



**BUILDING BRIDGES** After you've hooked up a Thunderbolt cable between the Macs you wish to network, you can view the status of your connection and access options.



## Intel: Thunderbolt Macs and PCs Will Be Able to Connect

**AT THE NATIONAL ASSOCIATION** of Broadcasters trade show held in early April, Intel revealed that Thunderbolt Networking would expand to allow direct connections between Macs and PCs.

Owners of Thunderbolt-equipped Macs already have Thunderbolt Networking available to them, as Apple added that capability with the release of Mavericks. To take advantage of Thunderbolt Networking on a Mac and a PC, the user must install a PC software driver. Intel has not announced the availability of the PC driver at this writing, but the company was performing demonstrations in its booth at the NAB show.

In a Technology@Intel blog post ([go.macworld.com/intelthbolt](http://go.macworld.com/intelthbolt)), Dan Snyder, the company's technical PR manager, said that Thunderbolt Networking's performance is comparable to that of 10-gigabit ethernet. "By offering simple and fast file-sharing, Thunderbolt Networking enables backup or upgrade across two computers like never before, using existing cables and connectors," wrote Snyder.—JAMES GALBRAITH



# 'Haunted Empire' Sticks to a Narrative of Doom

Yukari Iwatani Kane's book misses a chance to properly analyze the post-Jobs era.

BY JASON SNELL

If Yukari Iwatani Kane's *Haunted Empire* teaches us anything, it's that a dogged newspaper reporter who wants to write a book about Apple needs a narrative hook. In Kane's case, Apple is now an empire that is haunted by its departed emperor, Steve Jobs, and is crumbling before our eyes.

The book pounds that premise endlessly. Apple's foundation, Kane writes at one point, is "a cult built around a dead man." It's a shame, because inside *Haunted Empire* she offers some solid reporting, most notably a detailed description of Apple's manufacturing processes based on interviews with Chinese factory workers. Kane's summary of Apple's recent legal issues is good too, as are the biographical sections about the key players at post-Jobs Apple. But elsewhere the book shows a writer trying too hard to align a title and a theme—namely that Apple is doomed in every way.

## WHICH WAY IS IT?

Kane cherry-picks press reactions to events and financial statements. For example, she suggests that too many people buying the low-end iPhone 4s instead of the new iPhone 5 in early 2013 was a sign of Apple's failure. But a few paragraphs later, she suggests that buyers' preference for the iPhone 5s over the low-end iPhone 5c was an equal-yet-opposite sign of the same failure.

Sometimes I laughed out loud at the sources Kane uses to illustrate Apple's failings. The chapter on Siri adequately recounts Siri's problematic launch—and then drops the hammer with quotes from *Tuesdays With Morrie* author Mitch Albom and the ever-quotable Steve Wozniak.

Buried in the Siri chapter is a statement that "opinions were split" about



whether the Siri launch would have been different under Jobs. But Kane makes her opinion clear: The absence of the Steve Jobs Reality Distortion Field made a bad situation worse.

Once Tim Cook gets to Apple, the book's reporting picks up; we get a sense of Cook's personality, too. But then the narrative reasserts itself, and Kane's portrayal of Cook becomes brutal. He yells at underlings. He has "no spark, no fire," and is "flat and off key."

The portrayal of the Jobs-Cook dynamic is intriguing. Jobs is depicted as being furious at the credit Cook received while he was running the company during Jobs's health leave. *Haunted Empire's* Jobs is extremely concerned about getting all the credit for everything that has happened at Apple.

But if Jobs was obsessed with claiming credit where it wasn't due, doesn't that imply that the world may overrate

his impact on Apple? It's an interesting idea. But it undercuts the narrative, so the book promptly drops it.

Kane seems to misunderstand Jonathan Ive. She tells how Ive came to work at Apple and connect with Jobs. Sticking to her theme, however, Kane portrays Ive as an out-of-control designer who defends form over function. But if Ive is as Kane describes him, he isn't much of a designer, since design is about how something works as well as how it looks.

## TELLING THE WRONG STORY

One of the best arguments that Apple really has lost its way would be the dramatic visual overhaul Cook and Ive introduced with iOS 7. But Kane had already written the book by then, so she has only a couple of paragraphs about iOS 7 in her epilogue.

When I first encountered an excerpt in the *Wall Street Journal*, it included a quote declaring that "employees are quitting" Apple, a sign that the party's over. I looked forward to getting more detail on that claim in the actual book. Nope—in the epilogue, she says "employees are quitting." That's it.

The book closes with a contrast between one magazine cover featuring Google trying to cure death and another showing Apple executives defending the company. The implication: Apple's story is a cynical "pep talk" to convince investors the sky isn't falling, but Google's PR puffball about dream technologies is brilliant. See how bad it's gotten for Apple? Its competitors are inventing immortality while it just keeps making money selling phones.

Apple's post-Jobs status would be a fascinating topic for a book. This isn't that book. *Haunted Empire* can't get out of the way of its own Apple-is-doomed narrative to tell that story. ■



# Thunderbolt Powerhouses

Take your workflow to the next level with drives that offer tremendous storage and speed capabilities perfect for 2K / 4K editing, photography, data management, backup, and more.



## OWC Mercury Elite Pro Dual

2-bay Thunderbolt Drive

Up to 10.0TB  
from \$429.99

UP TO  
389MB/s  
READ

UP TO  
351MB/s  
WRITE

[www.macsales.com/thunderbolt](http://www.macsales.com/thunderbolt)

## OWC ThunderBay IV

4-bay Thunderbolt Drive

Up to 20.0TB  
from \$699.99

UP TO  
895MB/s  
READ

UP TO  
863MB/s  
WRITE

[www.macsales.com/thunderbolt](http://www.macsales.com/thunderbolt)



## FireWire, USB 3.0, and eSATA Drives and Docks

[www.macsales.com/externals](http://www.macsales.com/externals)



Great for everything from backup, boot, music, photography, video, storage and more – now up to 24TB **from \$77.99**

## OWC Mercury Solid State Drives, Built & Supported by Mac People, for Mac People

[www.macsales.com/ssd](http://www.macsales.com/ssd)



Upgrade / Add an SSD to your Mac:

- Boot and launch apps in seconds,
- Up to 92x faster than a hard drive,
- Bye bye beachballs!

60GB–960GB  
**from \$49.00!**



Designed and built in the USA  
from domestic & imported parts

## Supercharge Your Creativity

[www.macsales.com/pcie-ssd](http://www.macsales.com/pcie-ssd)

Faster than any 2.5" SSD,  
and the only bootable  
PCIe SSD for Mac Pro.

Up to 960GB **from \$299.00**



## Upgrade Air + Retina

[www.macsales.com/ssd](http://www.macsales.com/ssd)

Add up to 8x more capacity that's up  
to 3.5x faster than the stock drive.

**from \$129.00**

**Most popular – 240GB now from \$179.00**

## OWC Memory for All Macs

Find memory for your Mac at [www.macsales.com/memory](http://www.macsales.com/memory)



Up to 32GB for iMac, Mac mini,  
MacBook, and MacBook Pro  
**Most popular – 8GB from \$94.99**



2012 Mac Pro and 2013 Mac Pro  
Now up to 128GB  
**Most popular – 32GB from \$319.99**

## OWC Data Doubler Kits

[www.macsales.com/dd](http://www.macsales.com/dd)



Add a 2nd hard drive or SSD to an iMac, Mac mini, MacBook  
and MacBook Pro. Complete with tools + free installation videos!  
**from only \$29.00**

Free online install videos | Free expert support 24/7

**OWC | 25**

1-800-275-4576

| [www.macsales.com](http://www.macsales.com)



# The Best Portable Hard Drives

Macworld Lab has tested quite a few portable storage devices recently. Here are our favorite models.

BY ALBERT FILICE

**W**hen you're shopping for a portable drive, you need to keep a few things in mind. First, portable drives rarely offer data redundancy, so don't expect to store sensitive or irreplaceable files on one (or at least plan to back up that data). Determine

how you'll use the drive, too, and evaluate whether you need superb speed or massive capacity. Of course, there's also the expense to think about; to compare costs across different storage capacities, calculate the price per gigabyte.

Other considerations: A bus-powered drive operates on power from its data connection, so you don't need to carry around a bulky power brick. A reliable manufacturer is a significant bonus, as well, and don't forget about the product's warranty—drives do fail, and sometimes you get stuck with a lemon.

Macworld Lab runs benchmarks to gauge the performance of each drive we test. Following are our current picks.

## TOP CONTENDERS

**Seagate Backup Plus Fast (4TB):** Our number one choice, the Backup Plus Fast ([go.macworld.com/backupplusfast](http://go.macworld.com/backupplusfast)) has a lot of great features. Its price per gigabyte (\$0.07) is terrific. The storage capacity is phenomenal for a portable, bus-powered device. Speed is impressive, too, thanks to the RAID 0 setup, which pairs two slower drives to make a fast and roomy one. Because two physical drives reside inside the enclosure, the device weighs 10.9 ounces—not terrible, but not featherlight. Fortunately, the enclosure isn't much bigger than the drives, and the unit feels comfortable to hold.

The downside to RAID 0 is that if one drive fails, you lose all of the data on both drives. You may be put off by the fact that a RAID 0 configuration carries such a risk. A drive failure in RAID 0 doesn't render both drives useless, however: You could simply replace the bad drive or remove the good drive for future use. Just don't maintain any highly sensitive information on this storage device exclusively; keep using backups and media that you can replace.



**STORAGE ON A BUDGET** Adata's 2TB DashDrive HV620 is a simple and affordable portable hard drive.

**Adata DashDrive HV620 (2TB):** The plain and simple DashDrive HV620 ([go.macworld.com/hv620](http://go.macworld.com/hv620)) offers a generous amount of storage capacity and a great price per gigabyte (\$0.07). It's suitable for anybody seeking to maximize their on-the-go storage affordably. You could shell out twice as much for the faster and larger Backup Plus Fast—but if you're on a budget and you don't mind a drive with average speeds, choose the HV620.

**G-Technology G-Drive Mobile USB (1TB):** If you don't require 4TB of space, check out the G-Drive Mobile USB ([go.macworld.com/gdriveusb](http://go.macworld.com/gdriveusb)). An aluminum enclosure surrounds a 7200-rpm laptop drive. The price per gigabyte (\$0.14) is good, and so are the speeds—this unit finished tests about 20 MBps faster than drives spinning at 5400 rpm. If you need a mobile backup drive, or something to move files from place to place, the G-Drive Mobile USB is a solid choice.

**Apricorn Aegis Portable 3.0 (256GB SSD):** The cost of the Aegis Portable 3.0 ([go.macworld.com/aegisport](http://go.macworld.com/aegisport)), our favorite portable solid-state drive, has decreased enough since its introduction to make the price per gigabyte more reasonable (\$1.09), especially given how fast the drive is. We've tested some less expensive drives, such as the Adata DashDrive



**A FAST AND CAPABLE OPTION** G-Technology's 1TB G-Drive Mobile USB is good for making backups.



Elite SE720, but the Aegis Portable 3.0's superior speeds (about 100 MBps faster than our next-favorite SSD, the Envoy Pro EX) are worth the extra bucks. This is a great drive if you need the speed and don't require tremendous capacity—for instance, if you're moving or storing big files rather than backing up a computer.

## THE REST OF THE PACK

**Apricorn Aegis Bio 3.0 (1TB):** If you need some security on your personal hard drive, turn to the Aegis Bio 3.0 ([go.macworld.com/aegisbio3](http://go.macworld.com/aegisbio3)), which incorporates both a built-in fingerprint reader and a hardware-encrypted drive. This device is more expensive than the average portable hard drive, and its speeds are fairly typical, but it offers a convenient way to lock down your portable storage. The fingerprint reader can support five unique prints, so if you want somebody else to have access they'll need to set up their own fingerprint to unlock the drive.

The Apricorn Aegis Padlock SSD ([go.macworld.com/padlockssd](http://go.macworld.com/padlockssd)), which you secure with a number pad in lieu of a fingerprint reader, is a smaller and more rugged alternative to the Aegis Bio. The Aegis Padlock SSD's solid-state drive makes it a lot faster but more expensive.

**Elgato Thunderbolt Drive+ (512GB SSD):** If you need a Thunderbolt model, check out the Thunderbolt Drive+ ([go.macworld.com/elgatothbolt](http://go.macworld.com/elgatothbolt)). It's the fastest, and most expensive, portable Thunderbolt drive we've tested, though on average its speeds failed to top those of the Aegis Portable 3.0.

According to Elgato, the Thunderbolt Drive+ has a very low failure rate thanks to a combination of custom firmware on Plextor M5 Pro

SSDs along with a server-grade controller. Although this model ships with a Plextor drive that you can find online for hundreds of dollars less at this writing, you might not enjoy the same performance if you attempt to make your own external Thunderbolt SSD. What you get here is a nice enclosure offering both Thunderbolt and USB 3.0 connection options, as well as a warranty from Elgato.

### OWC Envoy Pro EX (240GB SSD):

The slender Envoy Pro EX ([go.macworld.com/envoyproex](http://go.macworld.com/envoyproex)) encases OWC's superfast Aurora SSD in an aluminum enclosure. Its USB 3.0 connector means you can use it just about anywhere. In write speed, it's no match for the Aegis Portable 3.0, but it is swift nonetheless, and

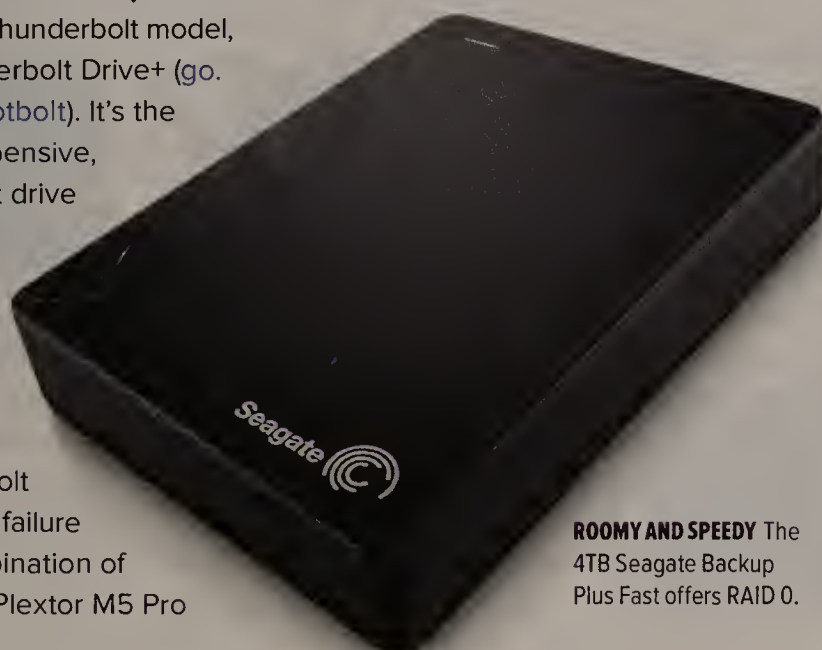
it's a great choice if speed is a concern. On top of that, it isn't ridiculously expensive, and it

manages to be durable yet sleek.

**Toshiba Canvio Slim II (1TB):** The Canvio Slim II ([go.macworld.com/canvioslim](http://go.macworld.com/canvioslim)) is bland, but that's what's best about it. This model is especially affordable (\$75), and its speeds are average for a 5400-rpm laptop drive. It's good for storing movies and other media files, or for lending to colleagues. ■



**WORTH THE COST** Use Apricorn's pricey but fast Aegis Portable 3.0 SSD for moving or storing big files.



**ROOMY AND SPEEDY** The 4TB Seagate Backup Plus Fast offers RAID 0.

## Samsung Lowballs 4K Rivals With a \$700 Display

**OUR EYES HAVE** feasted on 4K TVs, and 4K monitors are coming. Now Samsung is introducing its first Ultra High Definition, 4K display meant for desktop use.

The UD590 is a 28-inch desktop monitor with a resolution of 3840 by 2160 pixels. But the best part is its price: \$700, according to Samsung. Other models due out this year will cost \$1000 or more.

Capable of connecting via HDMI or DisplayPort, the UD590 boasts a 1-millisecond gray-to-gray response time, 370 cd/m<sup>2</sup> brightness, and support for 1 billion colors. It uses LED backlights with a TN panel that offers 170- and 160-degree viewing angles—good, but not as wide as the viewing angles of monitors based on IPS or LPS panels.

The display features Samsung's Picture-in-Picture 2.0, which allows you to view two connected computers side by side at native resolution or to view HD video at its full original resolution. The display can upsample low-res content to UHD, as well.

At this writing, we're still waiting for details on the refresh rates—a sticking point with other 4K monitors. Part of the problem relates to the port in use: We have a Sharp 4K display, for instance, that manages only a 30Hz refresh rate via HDMI but hits 60Hz via DisplayPort, which is a more capable but less commonly used connector.

The UD590 should ship by the time you read this. —JAMES GALBRAITH





# Macworld/iWorld 2014: Best of Show

Hundreds of products were on display this year, but a few stood out from the rest.

BY MACWORLD STAFF

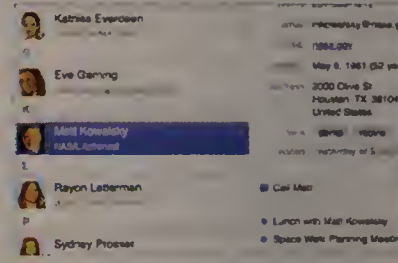
Every year at the Macworld/iWorld show, *Macworld's* editors survey a list of products submitted in advance by vendors, but most of the work involves scouring the show floor to find worthy candidates. We then gather back at headquarters, and—after a long, pizza-fueled debate—we determine the winners. Here are the recipients of our 2014 Best of Show awards.



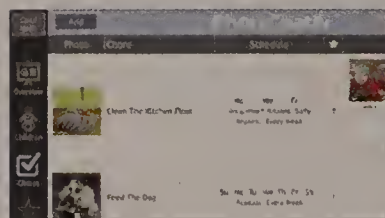
**Akitio Palm RAID:** The slim and compact Palm RAID ([akitio.com](http://akitio.com)) houses a pair of mSATA SSDs and offers a tethered Thunderbolt cable. The bus-powered portable storage device comes in 256GB and 512GB capacities.



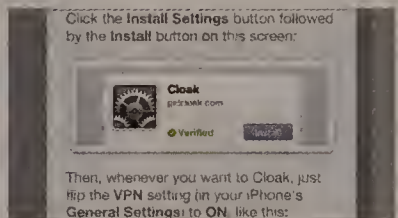
**ArcSoft Simplicam powered by Closeli:** This home monitoring system ([arcsoft.com](http://arcsoft.com)) combines a camera and an easy-to-use iOS app. Its facial detection lets you set alerts for specific people so that it records only when necessary.



**BusyContacts:** Offering customizable views, tagging, and smart filters for finding and grouping entries quickly, BusyContacts ([busymac.com](http://busymac.com)) syncs with Exchange, Google Contacts, iCloud, and more. It integrates with BusyCal, too.



**Chore-inator:** Having trouble motivating your kids to pitch in around the house? With this iOS app ([binaryformations.com](http://binaryformations.com)), you can set up a list of chores, and the kids can check them off—and take pictures as proof.



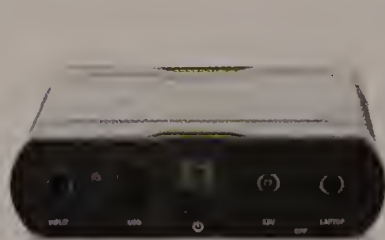
**Cloak 2:** The latest version of this iOS utility ([getcloak.com](http://getcloak.com)) lets you define trusted Wi-Fi networks; when you join an untrusted network, Cloak 2 secures the connection over a VPN. If you have the Mac version, your settings sync.



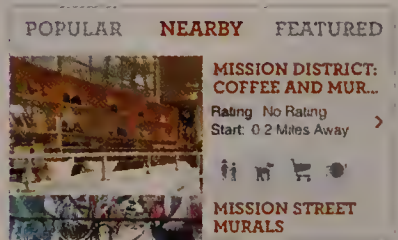
**Emulsio:** If you take sports footage or have shaky hands, Emulsio ([creaceed.com](http://creaceed.com)) might become your best friend. The app's powerful stabilization engine works largely under the hood to produce beautifully smooth high-definition video.



**Flir One:** Admit it—you've always wanted night vision on your iPhone. Flir One ([flir.com](http://flir.com)) outfits your iPhone 5 or 5s with a thermal camera, and when you use it with the companion app, you can detect infrared energy.



**Goal Zero Sherpa 100 Power Pack:** The 26,400-mAh, lithium ion battery in the lightweight Sherpa 100 ([goalzero.com](http://goalzero.com)) can extend a MacBook Air's battery life by roughly 6 hours, or recharge an iPad several times.



**Kamino:** Offering walking tours that blend a treasure hunt and Yelp-style reviews, this iOS app ([gokamino.com](http://gokamino.com)) lets you view and build local hikes augmented with geo-located Instagram photos and restaurant recommendations.



**Kanex Thunderbolt Adapters:** Now that Apple is relying on Thunderbolt, you probably need adapters to hook devices to your MacBook Air. Kanex ([kanexlive.com](http://kanexlive.com)) offers an eSATA/USB 3.0 model and a gigabit ethernet/USB 3.0 unit.



**Sonoma Wire Works Guitar-Jack Stage:** This 24-bit audio interface and pedal controller ([sonomawireworks.com](http://sonomawireworks.com)) works great with the company's own GuitarTone iOS app, but it also supports many other iOS music apps, plus Macs and PCs.



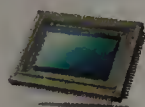
Blackmagicdesign



Lenses and accessories shown are not included

## Shoot the next Hollywood blockbuster with the world's most amazing digital cinema camera!

The world's most mind blowing feature films, television commercials and music videos look amazing because they are filmed with digital film cameras! The new award winning Blackmagic Cinema Camera is unlike a regular video camera or DSLR camera because it's a true high end digital film camera! You get a true Hollywood cinematic look with 13 stops of dynamic range, interchangeable lenses, high quality RAW and ProRes® file recording plus much more!



### Dramatically Better than DSLR Video

The Blackmagic Cinema Camera includes a large 2.5K sensor for super sharp images that eliminate resolution loss HD bayer sensors suffer from, while creating manageable files that are not too big! The large screen LCD allows easy focusing and the high speed SSD recorder lets you record in ProRes®, DNxHD® and RAW file formats for Final Cut Pro X and DaVinci Resolve!



### Super Wide Dynamic Range

The Blackmagic Cinema Camera captures an incredible 13 stops of dynamic range so you can simultaneously capture the brightest highlights and the darkest shadows all at the same time into the recorded file! This means you capture more of the scene than a regular video camera can so you get more freedom for color correction for a feature film look! You also get a full copy of DaVinci Resolve!



### Film Industry Quality

Every feature of the Blackmagic Cinema Camera has been designed for quality. With 2 separate models, you can choose from the world's most amazing EF or MFT lenses from crafters such as Canon™, Zeiss™ and more. For extreme high end work, you can shoot full 12 bit CinemaDNG RAW uncompressed files for incredible creative range in DaVinci Resolve color correction, as well as the world's best chroma keying!



### Accessories Built In

High end cinema cameras often require thousands of dollars of extra accessories to make them work, however the Blackmagic Cinema Camera includes accessories you need built in! You get a large 5 inch monitor, super fast SSD RAW recorder and professional audio recorder all built in! You also get UltraScope software, used via the built in Thunderbolt™ connection, for on set waveform monitoring!



**Blackmagic Cinema Camera**  
**\$1,995**

Includes DaVinci Resolve Software



Learn more today [www.blackmagicdesign.com/cinamacamera](http://www.blackmagicdesign.com/cinamacamera)

Blackmagicdesign





AUDIO APP

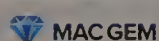
## AirPlay Recorder Effectively Captures iTunes Streams

### AirPlay Recorder



PRICE:  
\$10

COMPANY:  
DoubleTwist  
doubletwist.com



File this little app under *controversial*: AirPlay Recorder is designed solely for capturing iTunes audio streams—

namely, songs that play over iTunes Radio—for later playback.

Technologists call such practices “time shifting” and justify them by saying that consumers can find plenty of tools for capturing audio on a Mac. The fact remains, though, that you use this app to make a copy of music you didn’t buy.

Some people might say that a legitimate use is to record an



iTunes Radio station so that you can listen to it on the go without using up your cellular data, or listen to it on either an iPod touch or a Wi-Fi-only iPad while you’re out of Wi-Fi range. Rights holders, though, could reply that your license does not grant you such liberties.

Using the app couldn’t be easier. At launch it registers with iTunes as an AirPlay destination. Then you start iTunes and choose *dT Recorder* in the AirPlay menu. When you play a track or an iTunes Radio station, AirPlay Recorder captures the track(s), plus the title, artist, and album art. It encodes recordings in Apple Lossless format.

Because iTunes thinks you’re sending the audio to a remote AirPlay destination, if you want to listen as it runs you must click *Multiple* in iTunes’ AirPlay menu and enable both *Computer* and *dT Recorder*. Even then, you can’t monitor tracks as they play and choose which ones to record. You can later

select tracks to keep or to copy.

You have other recording options: Rogue Amoeba’s Audio Hijack Pro, for example, can do the job—but because it has quite a few other uses, it’s not as simple or as convenient as AirPlay Recorder for this purpose (and it’s also perceived as a more legitimate tool). Considering the questionable nature of what AirPlay Recorder does, I suspect that this app’s future is uncertain. But it works as advertised.

—CHRISTOPHER BREEN



Mac Gems are apps that offer standout utility or unique features at a great price.

GAME

## Banner Saga Immerses You in a Viking-Themed World

### The Banner Saga



PRICE:  
\$25

COMPANY:  
Stoic  
stoicstudio.com

In the crowdfunded game *The Banner Saga*, you enter a world inspired by Viking legend. The

gods are dead, and humans and the horned giants known as Varl must work together to fight an invading menace.

This installment (the first of three) hints at greater things to come, but you’ll embark on a satisfying 8-to-10-hour journey here. The story and characters change according to your decisions, too.

The gameplay consists of travel, decision-making, and combat. Every day consumes



supplies. You can also rest, which heals warriors and boosts morale, but expends precious resources.

Your caravan frequently stops to deal with problems, enemies, and more. A certain choice or a lost battle can leave a major character dead or see you wandering the wastes starving and losing

caravan members, while other events can give you extra supplies or magical artifacts.

A turn-based system governs combat. Strength also serves as health, but you must whittle opponents’ armor away before you can do any damage. Strategy comes into play via numerous classes and abilities. The difficulty is

suitably challenging. Sometimes you enter War mode, in which you must make tactical decisions before entering combat; you can even opt out of direct combat and manage the battle from afar.

What Stoic has achieved on a budget is breathtaking. The hand-drawn artwork and animations are stunning. Austin Wintory’s soundtrack is grand or haunting when the occasion demands.


The game should run on almost any modern Mac. We encountered only a few minor bugs over multiple runs.

*The Banner Saga* is an engaging and fun RPG with high replayability. It will leave you eager to see the next chapter. —JON CARR



# Canon's iP8720 Produces Sharp Supersized Photos

**Canon  
Pixma  
iP8720**



PRICE:  
\$300

COMPANY:  
Canon  
usa.canon.com

Aimed at advanced amateur photographers looking to supersize their prints, Canon's Pixma iP8720

uses six inks to make borderless prints as big as 13 by 19 inches. If you own a camera in Canon's Rebel line of digital SLRs, it's a great fit.

Along with cyan, magenta, yellow, and black, the printer uses photo black and photo gray. It ships with setup cartridges, but is compatible with standard cartridges (\$75 a set) and high-capacity cartridges (\$113 a set). Canon's print-yield

data estimates indicate that printing a 4-by-6 color photo on photo paper will cost you about 24 cents with the extra-large cartridges and 37 cents with the standard ones.

The iP8720 weighs 18.6 pounds and measures 23.3 by 13.1 by 6.3 inches closed. When you extend the paper guides, the unit measures a substantial 16 inches high and 32 inches deep.















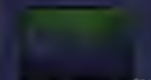





Ideally the iP8720 would serve as a second printer dedicated to printing photographs—not, say, maps and directions on plain paper. Nevertheless, the iP8720 printed commendably clean text in our standard inkjet Office test pages.



Test photos looked great. I used both the provided ICC color profiles and the Canon settings. The Canon settings were pleasing, but grays seemed more neutral—and colors looked more accurate overall—with the ICC color profiles. Even with prints at the maximum 13 by 19 inches, the 9600-by-2400-dpi resolution reproduced fine details and textures, created smooth skin tones, and rendered delicious-looking food.

Photographers who want to print at home should look at the Pixma iP8720. It creates sharp, beautiful 13-by-19-inch prints.—JAMES GALBRAITH

## MACS: CURRENT LINEUP

PRODUCT	SPECS (STANDARD CONFIGURATION)	RATING	PRICE	DISPLAY	SPEEDMARK 9 <sup>1</sup>	MORE INFO
DESKTOP						
	Intel Core i5/2.7GHz (quad-core)		\$1299	21.5 inches	179	go.macworld.com/imac212713
	Intel Core i5/2.9GHz (quad-core)		\$1499	21.5 inches	189	go.macworld.com/imac212913
	Intel Core i5/3.2GHz (quad-core)		\$1799	27 inches	211	go.macworld.com/imac273213
	Intel Core i5/3.4GHz (quad-core)		\$1999	27 inches	235	go.macworld.com/imac273413
	Intel Core i5/2.5GHz (dual-core)		\$599	Not included	n/a <sup>2</sup>	go.macworld.com/mini2512
	Intel Core i7/2.3GHz (quad-core)		\$799	Not included	149	go.macworld.com/mini2312
	Intel Xeon/3.7GHz (quad-core)		\$2999	Not included	291	go.macworld.com/macpro3713
	Intel Xeon/3.5GHz (six-core)		\$3999	Not included	323	go.macworld.com/macpro3513
PORTABLE						
	Intel Core i5/1.4GHz, 128GB		\$899	11 inches	131	go.macworld.com/air1281114
	Intel Core i5/1.4GHz, 256GB	n/a <sup>2</sup>	\$1099	11 inches	n/a <sup>2</sup>	go.macworld.com/air2561114
	Intel Core i5/1.4GHz, 128GB	n/a <sup>2</sup>	\$999	13 inches	n/a <sup>2</sup>	go.macworld.com/air1281314
	Intel Core i5/1.4GHz, 256GB		\$1199	13 inches	138	go.macworld.com/air2561314
	Intel Core i5/2.5GHz (dual-core)		\$1199	13 inches	n/a <sup>2</sup>	go.macworld.com/macbook132512
	Intel Core i5/2.4GHz (dual-core), 128GB		\$1299	13-inch Retina	155	go.macworld.com/macbook1312813
	Intel Core i5/2.4GHz (dual-core), 256GB	n/a <sup>2</sup>	\$1499	13-inch Retina	168	go.macworld.com/macbook1325613
	Intel Core i5/2.6GHz (dual-core)		\$1799	13-inch Retina	177	go.macworld.com/macbook132613
	Intel Core i7/2.0GHz (quad-core)		\$1999	15-inch Retina	n/a <sup>2</sup>	go.macworld.com/macbook152013
	Intel Core i7/2.3GHz (quad-core)		\$2599	15-inch Retina	282	go.macworld.com/macbook152313

<sup>1</sup>Speedmark 9 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.8 (Mountain Lion). For more information, see go.macworld.com/speedmark9. <sup>2</sup>Not yet tested.



UTILITY

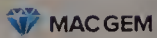
## Day-O: Me Say Day on the Mac's Menu Bar

### Day-O



PRICE:  
Free

COMPANY:  
Shaun Inman  
go.macworld.  
com/dayo



As someone with various weekly appointments and meetings—work meetings, after-school sports for my kids, and so

on—I always find it helpful when someone who wants to schedule a meeting mentions the proposed day of the week along with the date and time. If, for example, the planned date is July 8 and I know that July 8 is a Tuesday, I can reply immediately that I can't do meetings after 3 p.m. that day.

And that brings me to my biggest gripe about OS X's

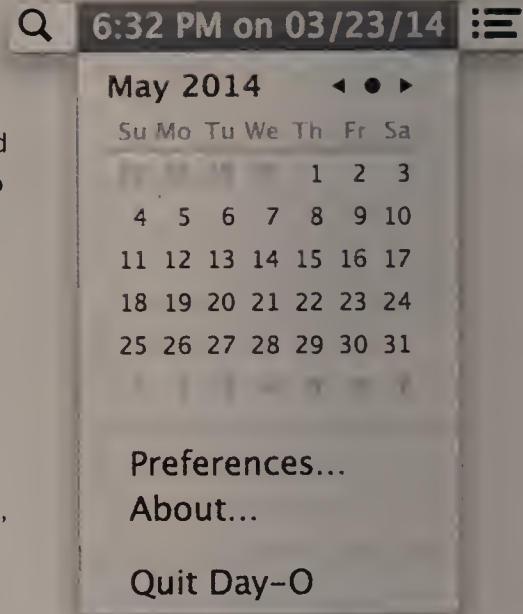
Date & Time menu-bar display: It shows only the current date and time. You have no option to display, for instance, a monthly calendar by clicking the menu bar. Sometimes I'm on the phone or writing an email invitation to set up a meeting, and I'd like to look up what day of the week a proposed date falls on.

Thanks to Day-O, however, my Mac has just such an easy-access calendar. Shaun Inman's free app (which he developed after the demise of MenuCalendarClock) is as simple as they come, but it does precisely what I need the app to do, and I've been using it for a couple of years.

With the Day-O calendar

open, you can click right and left arrows to shift the view forward or backward one month, respectively, and click the circle in between to return to the current month.

The only real customization feature is a nice one: It lets you use Unicode date-format patterns to modify how the date and time display in your menu bar. I use `h:mm a 'on' MM/dd/yy`, which displays the date and time as shown in the screenshot to the right, but you can use different patterns. For example, `h:mm a` displays just the time (in the format "12:00 AM"), while `EEE, MMM d, yyyy G` produces the format "Mon, Mar 24, 2014 AD."



Day-O doesn't do much else. But if, like me, you don't require any extra features, Day-O works well. It's certainly a valuable part of my Mac setup.—ROMAN LOYOLA

PRODUCTIVITY APP

## Dragon Dictate 4 Boasts Improved Speech Recognition

### Dragon Dictate 4



PRICE:  
\$200

COMPANY:  
Nuance  
nuance.com

The latest version of Dragon Dictate has something new under the hood, as Nuance has radically

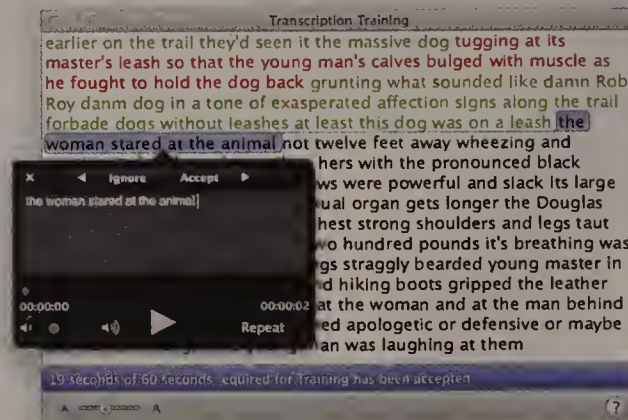
improved the software's speech recognition. I've dictated stories and blog posts, and read Web articles, using Dragon Dictate 4, and in all cases the speech recognition was excellent.

If you use Gmail on the Web, a new browser extension lets you manage Gmail through voice commands. As always, you can dictate into almost any app, but Dragon Dictate works best when you dictate into its

own Note Pad; it also works well with Microsoft Word or Pages '09. With those three apps, you can dictate and edit without

confusing the software; in other apps, if you try to do any editing, things can get messy.

I'm running the app on the same Mac mini I used for my review of Dragon Dictate 3, and it's noticeably faster; I've seen no lag between when I pause to allow Dragon Dictate to type my words and when they appear in my documents. (I left the slider that lets you



choose between speed and accuracy in the middle.)

Version 3 added a transcription feature that lets you record yourself on a dictaphone and transform your voice into text. Version 4 allows this feature to transcribe any single speaker, after a brief training process.

I tried it with two podcasts: one featuring Jennifer Egan reading a Mary Gaitskill story,

and another featuring a *Prairie Home Companion* Garrison Keillor monologue. The results were as I expected. Dragon Dictate did well with the first podcast, making few errors on that studio-quality recording of Egan reading slowly and carefully. Results were poor on the Keillor monologue, a live recording with audience laughter and improvised speech. It would be great if this feature could transcribe several voices, as in interviews.

Dragon Dictate 4's improved accuracy makes upgrading from version 3 worthwhile. If you've never tried speech-recognition software, you'll find that it offers a great way to create documents without typing.—KIRK McELHEARN



Images for  
**\$1.**  
**Always**

**DollarPhotoClub.com**



**DOLLAR PHOTO**  
CLUB

**simple, exclusive and value driven.**

**Simple:** One low and affordable monthly membership fee of \$10 gives 10 downloads, and access to millions of high quality, royalty-free images with a simple buy and download website. Additional downloads purchased for photos and vectors are always only \$1 – always! | **Exclusive:** Invite only. Only limited number of memberships will be offered and accepted. New exclusive Everlasting Downloads feature on every membership means unused downloads never expire –ever! Unused downloads can be kept forever, even after membership is over. | **Value Driven:** Over 26 million premium images with 100,000+ more added weekly. No hidden fees or commitments.



SECURITY UTILITY

# Hider 2 Creates an Encrypted Digital Vault on Your Mac

## Hider 2



PRICE:  
\$20

COMPANY:  
MacPaw  
macpaw.com

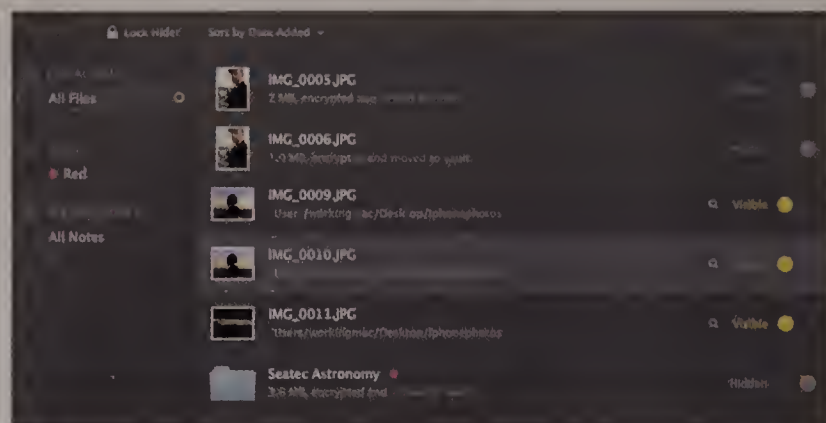


As concerns about data security grow daily, you might want to keep your files away from prying eyes. Hider 2 promises to

make that task easier.

The app builds on MacPaw's older MacHider by adding a Mavericks-refined interface, a systemwide menu, AES-256 encryption for both files and folders, and support for notes, tags, and external drives.

You get one vault—you can't create separate vaults for, say, work and personal



items. Simply drag files or folders into the vault window to tuck them away. Hider 2 doesn't just make your files invisible to snoops: It copies the files into its own private, encrypted space on your drive and deletes the items from their original locations. When you switch an item to

Visible, Hider 2 copies the item to its original location.

Note that the app simply deletes the original files as if you had moved them to the Trash and emptied it. Savvy miscreants could theoretically recover that data off your hard drive. If you need maximum security, Hider 2 currently isn't

your best option. (MacPaw plans to add secure deletion in a future version.)

In addition, every time you hide or unhide something, the process can take a while. Large folders (such as the 7GB folder I tested) require a significantly long time. You must remove an item from the vault to view or modify it, as well, and although Hider 2 supports Mavericks's Tags feature, you can't add or modify an item's tags while it's in your vault. (You can, however, make custom groups for files while they're encrypted.)

Still, despite those nitpicks, Hider 2 works quite smoothly. —SERENITY CALDWELL



**WF2780**

## AC1200 Wireless Dual Band Gigabit Router

**UPGRADE YOUR WI-FI ROUTER TO NETIS AC1200 NOW**



NETIS SYSTEMS CO., LTD.  
www.netis-systems.com  
Visit Our Landing Page to Win Secret Gift.





# OneNote: Not Quite Ready to Compete With Evernote

## OneNote



PRICE:  
Free

COMPANY:  
Microsoft  
[go.macworld.com/onenote](http://go.macworld.com/onenote)

Although the initial offering of OneNote for Mac is unlikely to dethrone Evernote, Microsoft's app is an

interesting competitor.

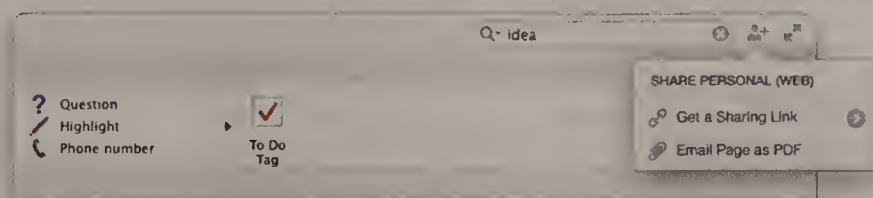
The free OneNote includes 7GB of online storage. If you pay for an Office 365 subscription, you get 20GB and can buy up to 200GB of extra space. Offline access to files comes at no charge. You can share any document you create in the free app, and collaborators can edit it simultaneously, though presently you cannot track the

changes others have made.

You can create as many "notebooks" (documents) as you want, and section them off with tabs. Each tab may contain an unlimited number of pages. You can color-code, name, and rearrange tabs.

To enter notes, just click on a page and type. You can then format the text and move the text box. The app also supports paragraph styles, lists, and highlighting, but you can't save and reuse style changes.

You can insert tables and format their text. You can perform basic calculations with numbers in cells, too, by typing a calculation in a single cell followed by an equal sign;



OneNote then provides the answer. It's a little odd, and your calculation remains visible, but the cells support addition, subtraction, multiplication, and division.

Inserting images is simple. Aside from resizing, though, the app offers no options for altering images, and you can't associate an image editor with inserted images.

OneNote has a long list of limitations, in fact. For example, you can't open existing

OneNote files saved locally. You can't print directly from the app. You can't add a document created elsewhere. And you can insert only Web links, not webpages. Microsoft states, however, that it will add such features regularly.

Right now, OneNote does not offer enough to entice Evernote users. But if collaboration, freeform text entry, and the upcoming features sound intriguing, OneNote is just what you need.—JEFFERY BATTERSBY

## Home Entertainment Center Out of Control...



## Time To Get Hands On ...

Ultra-Mini Wireless  
Keyboard for Mac

[SMKLINK.COM/UMK](http://SMKLINK.COM/UMK)



## UTILITY

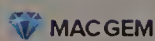
# Patterns Makes Quick Work of Regular Expressions

## Patterns



PRICE:  
\$3

COMPANY:  
Nikolai Krill  
krillapps.com



If you often wrangle text, *regular expressions*—sequences of characters and variables that can help you perform powerful

searches—can save you time. Working with regular expressions (aka *regex* or *grep*) takes practice and involves some trial and error, however.

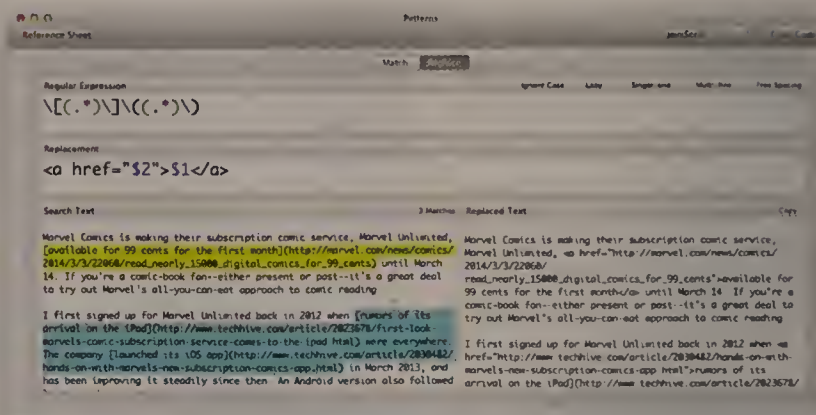
The Patterns app simplifies the creation of regex search patterns and gives a live view of the results. You paste the text you want to search. Then you enter a regular expression; as you type it in, the utility

highlights the matching text.

Click the *Replace* tab, and a Replacement field appears, with the lower half of the app window morphing into a side-by-side, before-and-after view. As the Search Text pane on the left highlights matched text, the Replaced Text pane on the right shows the results of your replacement pattern.

If you're building a search-and-replace pattern for use in code, a menu lets you choose any of several languages, including C#, Perl, PHP, Python, Ruby, and JavaScript.

Even an experienced user of regular expressions can forget which symbols to use in particular circumstances. Fortunately, Patterns offers a



reference in a floating palette.

I do wish that Patterns let you open a text file rather than requiring you to copy and paste text. I'd also like to save regex patterns. And the app doesn't offer a way to view the submatches of a pattern. One powerful aspect of regular expressions is that you can capture text by sur-

rounding matching patterns in parentheses, but Patterns has no option to fine-tune the text being captured. Instead, you have to build a replacement pattern and check the Replace Text pane to see if the pattern has rendered properly.

Still, Patterns is helpful for anyone who builds regular expressions.—JASON SNELL

## GAME

# Compelling Episodic Adventure Tells a Grim Tale

## The Wolf Among Us Episode 2



PRICE:  
\$5

COMPANY:  
Telltale Games  
telltalegames.com

In the five-part adventure *The Wolf Among Us*, you play Bigby Wolf, sheriff of Fabletown and formerly

the Big Bad Wolf.

With another grisly murder on his hands in Episode 2, "Smoke & Mirrors," Bigby must investigate more crime scenes, question suspects, and manage his complicated relationships with other "Fables" (fairy-tale characters who now live in New York after being forced out of their homeland). This setup leads to great character develop-



ment and top-notch writing.

Your choices directly affect events and outcomes. The consequences of the decisions you made in the first episode are well represented here. It's great to see the world react to Bigby with hostility or grudging respect.

Episode 2 will probably take you only 90 minutes to

complete. It can feel rushed and is light on gameplay in some sections. Still, it offers replayability through numerous decisions, big and small.

Although this episode seems to nudge the player toward being nice, it offers many opportunities to be compassionate or monstrous. Whether the story advances

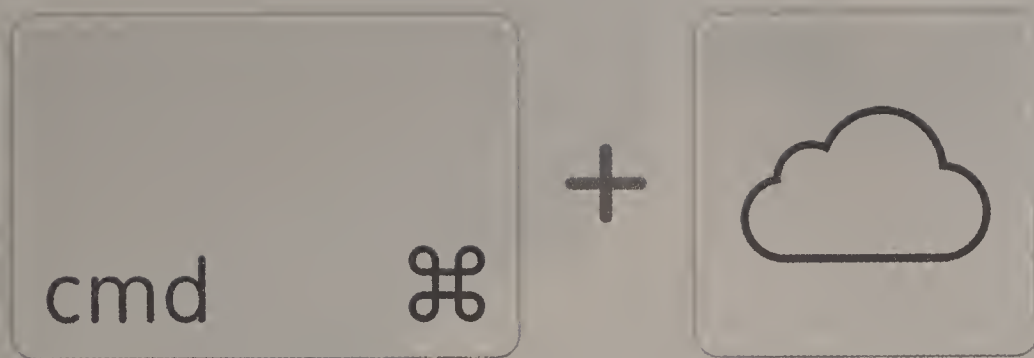
through violence or persuasion is often up to you. Bigby is a great character, and you can feel his struggle to do the right thing and his battle against his more brutal nature.

The visuals continue to create a brooding atmosphere, and an excellent soundtrack and good animation contribute to making Fabletown seem authentic.

This episode isn't the better of the two released so far, but it is entertaining. Future episodes need to reveal different locations and let players do more. Even so, this installment of *The Wolf Among Us* is a compelling game that mixes character exploration, violence, crime solving, and humor.—JON CARR

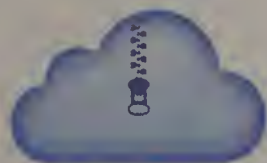


Try Us  
**FREE**



## It's cloud storage made simple.

- ✓ 100% Automated
- ✓ Access Files Anywhere
- ✓ Share Files with Friends
- ✓ Sync Multiple Computers
- ✓ 256 Bit Secure Encryption
- ✓ Free iPhone, iPad & Android app



zipcloud

[www.zipcloud.com/macworld](http://www.zipcloud.com/macworld)



Try us Free!

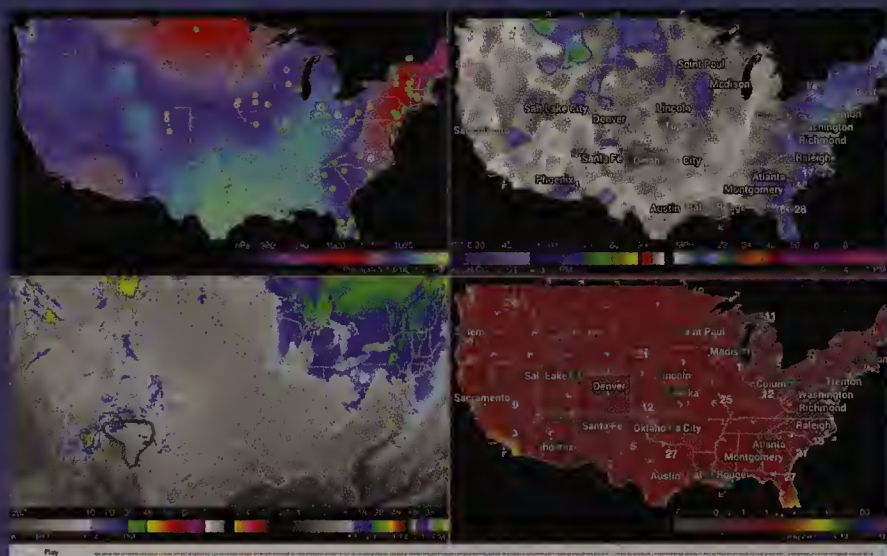


# Hot Stuff

What We're Raving About This Month

## Echo Express SEL Thunderbolt 2 PCIe Expansion Chassis

Sonnet says its \$399 device “is ideally suited for use with high-bandwidth networking cards, host bus adapters, and storage interface cards.” The chassis supports low-profile, single-width PCIe 2.0 x8 cards, including the majority of 16-gigabit and 8-gigabit Fibre Channel products, 10-gigabit ethernet, and SAS and SATA host bus adapters, as well as RAID controller cards ([sonnettech.com](http://sonnettech.com)). —JOEL MATHIS



### WEATHERWALL 1.0

WeatherWary's \$100 app is designed to bring up-to-the-minute data to the serious weather enthusiast's desktop. The software comes with support for a wide range of weather imagery, including radar data, wind maps, temperature reports, and weather warnings ([weatherwary.com](http://weatherwary.com)). —MARCO TABINI

### BIOSHOCK INFINITE: BURIAL AT SEA EPISODE 2

Aspyr's \$15 port of 2K Games' popular title is, shockingly, set right after the conclusion of *Burial at Sea Episode 1*, and features a story that involves nearly every major character from the original *BioShock* and from *BioShock Infinite* ([aspyr.com](http://aspyr.com)). —MARCO TABINI



The KENU logo is displayed in white, uppercase letters within a solid orange square in the top left corner of the advertisement.

KENU



# AIRFRAME

PORTABLE CAR MOUNT

*Simple. Elegant. Hands-free.*

Welcome to an improved driving experience with **Airframe**, the world's most portable car mount for smartphones. Just attach Airframe on to any air vent and insert your smartphone. It's that simple. Airframe weighs less than an ounce and makes the perfect companion for everyday use, vacations and business trips.

[kenu.com](http://kenu.com)







## Wall-to-Wall Apple: How iOS Could Make Its Way Into Your Home

Our homes are ready to venture into an automated future—and Apple's mobile tech could lead the way.

BY MARCO TABINI

**O**ur residences are overdue for a technological make-over. Through the years, more and more electronics have infiltrated our houses and apartments. Small internal computers run most modern appliances—thermostats, ovens, washing machines—and wireless networks carry significant amounts of data throughout many dwellings.

It stands to reason, then, that all the pieces are finally in place for home automation to transition from an out-there luxury to a commonplace aspect of every home. What's missing is a unifying technology that allows all your appliances to communicate.

Although Apple hasn't announced any specific plans in this regard, it has been quietly building technologies that could turn iOS into the hub of our homes.

### I KNOW WHERE YOU ARE

Home automation is not new. Systems that allow you to manage your lighting and heating remotely have existed for years, and simpler technologies—such as light switches that activate when you walk into a room—have been prevalent for several decades.

Many of these systems, however, rely too much on the user's active participation. A motion sensor can “see” you only if you move, which means you can't

expect it to know, for instance, that it should illuminate the living room while you quietly read a book in your armchair.

Apple's technologies have been slowly developing the ability to keep track of users' whereabouts. Lots of users carry some sort of iOS device around with them. Add a temperature sensor to an iPhone or an iPad, and you've got a thermostat that follows you through the house and can tell your central heating system exactly which rooms need climate control.

The precise localization features Apple has been engineering into its Bluetooth initiatives complement this “presence awareness.” The company's



iBeacon technology ([go.macworld.com/appleibeacon](http://go.macworld.com/appleibeacon)) allows tiny, inexpensive devices to pinpoint your location with a high degree of accuracy inside any building. With these technologies in place, it's not hard to imagine a compatible heating and cooling system, or lights that automatically turn on and off as you walk from room to room.

## APPLE CONQUERS THE LIVING ROOM

So far, Apple's efforts in the home media automation market have produced mixed results. At \$100, the Apple TV is less expensive than some of its competitors, including the consoles from Microsoft and Sony, but it doesn't offer interactive features such as games or apps. And Apple's set-top box comes at a steeper price and takes up more space than Google's Chromecast ([go.macworld.com/gchrome](http://go.macworld.com/gchrome)), although the latter can't function as a stand-alone device.

In the past Apple minimized the role of the set-top box in its business, calling it a "hobby." Now Apple executives are revising that view ([go.macworld.com/notahobby](http://go.macworld.com/notahobby)), with an eye to the device's \$1 billion plus in sales last year.

One area where Apple could set its media center apart from the competition is in the user interface. Remote controls are clumsy devices, and replacing them with a smartphone—something Apple's Remote for iOS makes possible—only marginally reduces the complexity of interacting with your television.

The company may have an ace or two up its corporate sleeve in this arena. It acquired 3D-sensor pioneer PrimeSense at the end of last year; the next Apple TV could possibly use 3D technology to



**SIRI IS MY COPILOT** Siri's functionality has been steadily expanding, and it stands to reason that the virtual assistant might find its way into the home, where it could interact with smart appliances.

detect your presence when you walk into the living room and allow you to control your viewing experience with simple gestures. (PrimeSense was behind the original version of Microsoft's Kinect.)

In addition, recent versions of the Apple TV support Bluetooth LE, which is exactly the kind of technology you are likely to find in wearable devices—a market that Apple seems to be eyeing with increasing interest ([go.macworld.com/healthbook](http://go.macworld.com/healthbook)). Who knows? In the near future we may finally stop looking for lost remotes under the sofa cushions and instead control our TV sets from devices on our wrists.

## SIRI, SIRI EVERYWHERE

Since its introduction in 2010, Siri has been a bit of a hit-and-miss affair. Even though it has shed its beta label, Apple's virtual assistant still often fails to complete fairly basic tasks.

But Siri is really just an interface that permits us to interact with a massive web of artificial intelligence and algorithms. As iOS's ability to interact with the real world increases, it will be able to feed data collected from the environ-

ment around us directly into Apple's digital brain. And its output, rather than coming out of a speaker, could control smart appliances all over your house.

For example, low-power sensors spread through a dwelling could collect real-time information about temperature and humidity, and then use Siri's power to apply the latest climate-management techniques—keeping you comfortable and reducing your energy use. Wearable devices and household appliances such as scales could collect health data in real time—even while you're sleeping—for use in medical models that would alert you of a reason to visit the family doctor.

In both cases, Siri's artificial intelligence wouldn't just automate our homes: It would improve our lives by incorporating expert knowledge in a variety of fields.

## A DARKER SIDE

Of course, many of the innovations that make home automation interesting could also herald an unprecedented level of privacy invasion. Do we really want companies to know how much time we spend in our living room, what our resting blood pressure is, or whether we like to keep the house balmy in the middle of winter?

Such questions are hard to answer, but Apple has made an open commitment to security in a white paper that aims to show it treats customers' data with care ([go.macworld.com/whitepaper](http://go.macworld.com/whitepaper)). Apple's efforts at transparency could go a long way toward helping these cutting-edge technologies gain acceptance. ■



**I FEEL YOUR PRESENCE** Apple's acquisition of PrimeSense, which specializes in presence sensors, is a sign that the company is serious about microlocation technologies.



# Apple Acquisition Hints at Future Improvements to Siri

BY DAN MOREN

**A**re you worried that Siri didn't get enough love in iOS 7? Apple is not done with the intelligent assistant just yet, if a recent acquisition yields any clues. Last year the company picked up UK-based Novauris Technologies, a firm that specializes in speech recognition ([go.macworld.com/novauris](http://go.macworld.com/novauris)).

Novauris was essentially an incarnation of the research and development team at Dragon Systems UK, the British subsidiary of Dragon Systems, which created voice-recognition and dictation applications including Dragon NaturallySpeaking and Dragon Dictate. Nuance, a company that provides speech recognition for Siri, now owns Dragon Systems.

So what should we make of the acquisition? Obtaining the best talent is clearly a major factor, but elements of Novauris's technology suggest Apple's possible plans for Siri.

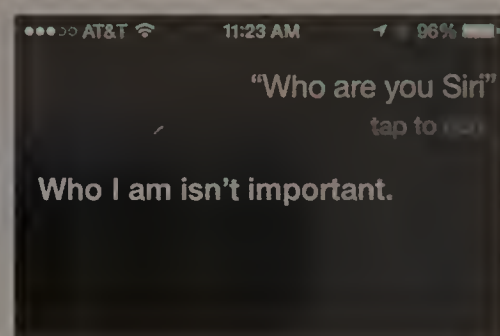
For one thing, Novauris has been developing software for both the server-based and embedded markets, meaning that its apps can perform speech-recognition functions right on a mobile device, rather than routing the

information through a remote server.

That technology may not yet be able to duplicate all the capabilities of speech recognition running on a more powerful server. However, it could improve response times and help in situations when you have poor connectivity. (I encounter some of my biggest problems with Siri when my device happens to be bouncing between network connections.) If nothing else, speech recognition on mobile devices could provide a fallback when the network is inaccessible. And as mobile hardware becomes more and more powerful, it will be able to handle a greater amount of processing.

The second and potentially more significant part of this acquisition lies in the strategic realm. As mentioned above, Nuance currently backs Siri's capabilities. Buying a firm that specializes in similar technology could reduce Apple's dependency on Nuance, thus bringing a major strategic asset in house. If Apple is intent upon making Siri an essential feature of iOS (and possibly eventually OS X), it would behoove the company to have this core technology under its own roof.

With challenges emerging from Google Now and more recently from Microsoft's Cortana, voice recognition is becoming an ever more hotly contested field. It's unclear how soon this acquisition will bear fruit, but we could see major improvements to Siri in iOS 8 this fall. Apple may have more to say on the subject at the Worldwide Developers Conference in June. ■



## 8GB iPhone 5c Now Offered in Several International Markets

**THE DEMISE OF THE iPad 2** (see page 34) isn't the only change Apple has made recently to its mobile product offerings. Some of Apple's international stores are now offering an 8GB version of the iPhone 5c, although the model is not for sale in the United States.

The model, which Apple has made available in countries including Australia, China, France, Germany, and the UK, generally costs about 8 to 9 percent less than the 16GB one. Of course, in most of those countries Apple sells the iPhone unlocked and without a subsidy from local carriers, meaning that the prices are much higher than in the United States.

But the price difference between the 8GB and 16GB iPhone models in most locations seems to be much smaller than that between the 16GB and 32GB models. An 8GB device is pretty limited when it comes to storing media files, photo collections, or apps. Given that the iPhone 4s is likely to appeal to the truly budget-conscious customer, it's hard to peg exactly who would buy the 8GB iPhone 5c. Apple may be targeting certain countries, including China, where a slightly cheaper model might gain some market traction for the iPhone.

As for whether the 8GB model will wind up in the United States, it's unclear at this point.—DAN MOREN





IT STARTS WITH  
**A WISH**  
IT CAN END WITH  
**A CURE**



Minka Cross  
Stand Up To Cancer  
Ambassador



THE  
**SAFEWAY**  
FOUNDATION

Stand Up To Cancer is a program of the Entertainment Industry Foundation, a 501 (c) (3) charitable organization.

\$2 from the sale of the \$2.99 reusable bag will benefit prostate cancer research.

Photo by Randall Slavin

**1 in 6 men will be diagnosed with prostate cancer in his lifetime.** When you choose this limited-edition bag, you're supporting vital research to help find a cure. Available at your local Safeway stores during the month of June, while supplies last.

**To help The Safeway Foundation and Stand Up To Cancer, and to get the facts about prostate cancer, go to [SafewayFoundation.org](http://SafewayFoundation.org).**



# Apple Replaces iPad 2 With Fourth-Generation Retina Model

BY DAN MOREN

**F**arewell, iPad 2—you had a good run. Apple has discontinued the model and replaced it in the lineup with the fourth-generation iPad with Retina display ([go.macworld.com/endipad2](http://go.macworld.com/endipad2)).

Apple introduced the 9.7-inch iPad 2 in 2011, and released its successor in late 2012. The iPad with Retina boasts an A6X processor, a 5-megapixel iSight camera, a FaceTime HD camera, support for LTE cellular networking (on AT&T, Sprint, T-Mobile, or Verizon), 802.11a/b/g/n Wi-Fi support on both 2.4GHz and 5GHz, Bluetooth 4.0,

and a 2048-by-1536-pixel Retina display. Available only in a 16GB configuration, the newer model retails for the same price as its predecessor—\$399 (Wi-Fi only) and \$529 (Wi-Fi plus cellular)—but offers much more bang for the buck.



The biggest question is how this shift will affect Apple's bottom line. Even at \$399, the popular iPad 2 probably had a decent profit margin. The newer model most likely costs more to produce.

But continuing to manufacture three-year-old technology does have drawbacks—and Apple's move will certainly please its customers. ■

## What's New at the App Store



### IFTTT

Version 2.0 of IFTTT ([go.macworld.com/ifttt](http://go.macworld.com/ifttt)), a free

universal productivity app, still connects

social media, photo, and Web services, but it can now also access iOS's notifications, and it boasts an iPad-specific interface. It also features a new "recipes collection" full of tricks for using the app to make your phone and tablet do the stuff you want.

—JOEL MATHIS



### STARLOG

The free Starlog app for iPhone ([go.macworld.com/starlog](http://go.macworld.com/starlog)) by Carlos

Douglas Barbosa allows you to record detailed observations of the night sky in a simple fashion: Just add the object you viewed, the time you saw it, and the equipment you used, along with any notes you have on the topic. Explore Jupiter via a telescope to your heart's content. —JOEL MATHIS



### CAPTAIN AMERICA: THE WINTER SOLDIER






Gameloft's \$3 game for iPhone and iPad ([go.macworld.com/capamerica](http://go.macworld.com/capamerica)) lets you fight some of Cap's better-known enemies—King Cobra, Puff Adder, Taskmaster, and the Winter Soldier—while occasionally calling in his friends, such as the Black Widow, the Falcon, and even some Avengers. In-app purchases make it possible for you to upgrade Cap's suit, research enemies more quickly, and advance more efficiently in the game. —JOEL MATHIS



### WRITEPAD PRO

The world is blessed with a million great note-taking apps, and Stan Miasnikov's \$10 WritePad Pro for iOS appears to be yet another good one ([go.macworld.com/writepadpro](http://go.macworld.com/writepadpro)). It can recognize your handwriting, correct spelling, save a document in a number of formats, and allow you to share notes via most cloud-based storage networks and social media services. WritePad Pro can also translate documents into 16 different languages with the aid of the Bing translator. —JOEL MATHIS

## iOS DEVICES: CURRENT LINEUP

PRODUCT	SPECS	RATING	PRICE <sup>1</sup>	DISPLAY	MORE INFO
 iPad Air <sup>2</sup>	16GB	Wi-Fi, ★★★★★	Wi-Fi: \$499; Wi-Fi and cellular: \$629	9.7-inch color (Retina)	<a href="http://go.macworld.com/ipadair">go.macworld.com/ipadair</a>
	32GB	Wi-Fi, ★★★★★	Wi-Fi: \$599; Wi-Fi and cellular: \$729	9.7-inch color (Retina)	<a href="http://go.macworld.com/ipadair">go.macworld.com/ipadair</a>
	64GB	Wi-Fi, ★★★★★	Wi-Fi: \$699; Wi-Fi and cellular: \$829	9.7-inch color (Retina)	<a href="http://go.macworld.com/ipadair">go.macworld.com/ipadair</a>
	128GB	Wi-Fi, ★★★★★	Wi-Fi: \$799; Wi-Fi and cellular: \$929	9.7-inch color (Retina)	<a href="http://go.macworld.com/ipadair">go.macworld.com/ipadair</a>
 iPad 4th Generation	16GB	Wi-Fi, ★★★★★	Wi-Fi: \$399; Wi-Fi and cellular: \$529	9.7-inch color (Retina)	<a href="http://go.macworld.com/ipad4">go.macworld.com/ipad4</a>
 iPad Mini	16GB	Wi-Fi, ★★★★★	Wi-Fi: \$329; Wi-Fi and cellular: \$459	7.9-inch color	<a href="http://go.macworld.com/minirev">go.macworld.com/minirev</a>
	32GB	Wi-Fi, ★★★★★	Wi-Fi: \$429; Wi-Fi and cellular: \$559	7.9-inch color	<a href="http://go.macworld.com/minirev">go.macworld.com/minirev</a>
	64GB	Wi-Fi, ★★★★★	Wi-Fi: \$529; Wi-Fi and cellular: \$659	7.9-inch color	<a href="http://go.macworld.com/minirev">go.macworld.com/minirev</a>
 iPhone 4s, 5c, and 5s	8GB 4s <sup>3</sup>	★★★★★	Free	3.5-inch color (Retina)	<a href="http://go.macworld.com/iphone4s">go.macworld.com/iphone4s</a>
	16GB 5c <sup>4</sup>	★★★★★	\$99	4-inch color (Retina)	<a href="http://go.macworld.com/iphone5c">go.macworld.com/iphone5c</a>
	32GB 5c <sup>4</sup>	★★★★★	\$199	4-inch color (Retina)	<a href="http://go.macworld.com/iphone5c">go.macworld.com/iphone5c</a>
	16GB 5s <sup>4</sup>	★★★★★	\$199	4-inch color (Retina)	<a href="http://go.macworld.com/iphone5s">go.macworld.com/iphone5s</a>
	32GB 5s <sup>4</sup>	★★★★★	\$299	4-inch color (Retina)	<a href="http://go.macworld.com/iphone5s">go.macworld.com/iphone5s</a>
 iPod Touch 5th Generation	64GB 5s <sup>4</sup>	★★★★★	\$399	4-inch color (Retina)	<a href="http://go.macworld.com/iphone5s">go.macworld.com/iphone5s</a>
	16GB	★★★★★	\$229	4-inch color (Retina)	<a href="http://go.macworld.com/touch516">go.macworld.com/touch516</a>
	32GB	★★★★★	\$299	4-inch color (Retina)	<a href="http://go.macworld.com/touch5">go.macworld.com/touch5</a>
	64GB	★★★★★	\$399	4-inch color (Retina)	<a href="http://go.macworld.com/touch5">go.macworld.com/touch5</a>

<sup>1</sup>All prices are Apple's prices. <sup>2</sup>Separate Wi-Fi-and-cellular iPad models are available for AT&T's network and for Verizon's. <sup>3</sup>This phone is available only with an AT&T plan. <sup>4</sup>These models are available with an AT&T, Sprint, or Verizon plan.

You might know **Joshua**.

He loves video games, and he owns enough to know they're not all meant for kids. That's why he reminds his friends (at least the ones that have kids) that they all have **big black letters on the box** to help parents find the ones that are best for their families.

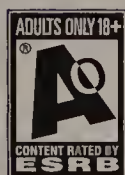
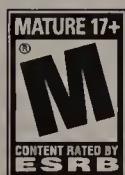
You can learn about those ratings at **ESRB.org**

FC

Los Angeles, CA



ENTERTAINMENT SOFTWARE  
RATING BOARD





## iPhone Cases: World Travelers

The iPhone cases in this month's roundup will take you wherever you need to go: One model boasts retro Italian flair, while another conceals makeup basics, and still other cases offer impact protection with classic leather, sturdy plastic, and high-grade aluminum.

BY MARCO TABINI

### Corners4

The Corners4 (iPhone 5 and 5s; \$40) is a set of four corner reinforcements made from aircraft-grade aluminum. They fit right on top of your handset to provide protection where your phone needs it the most. The corners are available in red, pink, black, bright silver, satin silver, or gold (go. [macworld.com/corners4](http://macworld.com/corners4)).



### HARD CORE

The Hard Core (iPhone 5 and 5s; \$60) offers high-impact protection against falls of up to 12 feet, with raised edges and reinforced corners for maximum ruggedness. Ballistic offers the case in black, black and pink, or black and red, and the product has a built-in screen protector (go. [macworld.com/hardcore](http://macworld.com/hardcore)).

### ITALIAN FLASHCARDS

The Italian Flashcards case (iPhone 5 and 5s; \$40) from Kate Spade New York offers a slim and secure fit. The white hard-plastic case features an Italy-inspired print on the back (go. [macworld.com/flashcards](http://macworld.com/flashcards)).



## Traveler

The Traveler (iPhone 5 and 5s; \$75) is handmade from American full-grain leather, with parachute-grade stitching and a rugged rear pocket. Pad & Quill offers the case in onyx black or whiskey brown (go. [macworld.com/traveler](http://macworld.com/traveler)).



## Mia Case

Mocamomo's \$30 Mia Case for the iPhone 5 and 5s (go. [macworld.com/miacase](http://macworld.com/miacase)) combines protection with fashion by incorporating a discreet compartment in which you can stash away your makeup essentials. The case includes two applicator brushes and is available in black, white, or gold.



## IMPACT MESH

Tech 21's Impact Mesh (iPhone 5 and 5s; \$35) is a minimalist shell made from high-impact TPU plastic, with a unique mesh pattern on the inside and a smooth finish on the outside. The case comes in smoke, clear, blue, or pink (go. [macworld.com/impactmesh](http://macworld.com/impactmesh)).



# Reviews

The Latest iOS Products  
Reviewed & Rated

SECURITY APP

## 1Password Secures Sensitive Data on Your Phone

**1Password**



PRICE:  
\$18

COMPANY:  
AgileBits  
agilebits.com

AgileBits' 1Password is a standout in the increasingly crowded field of data security apps

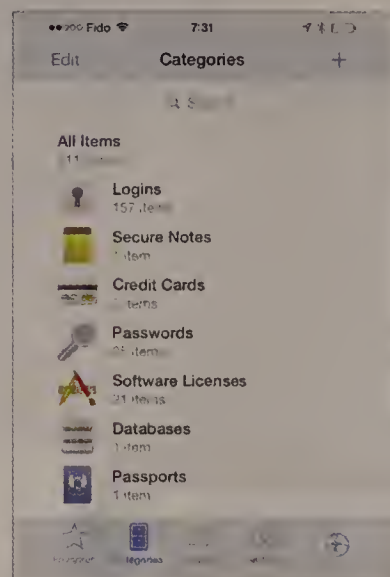
for Mac and iOS. It offers a consistently superior user experience, and the latest release for iOS is no exception.

The most obvious change in 1Password 4.5 for iOS is a redesign of the interface to bring it in line with iOS 7's look and feel. This version feels lighter and cleaner than its predecessor, with lots of

little details that make using the app a pleasure.

In particular, AgileBits' developers strike a fine balance between form and function, putting the app's capabilities at the user's fingertips for a clean, efficient, and pleasant experience. The design borrows heavily from Apple's paradigms, which makes 1Password feel familiar from the outset.

With version 4.5, AgileBits has made a few changes to the built-in browser, which safely stores your usernames and passwords. The main improvement is the introduc-



tion of a unified autofill panel that allows you to add data from your stored credentials, credit cards, and identities.

Changes aside, 1Password is a mature app that does its job remarkably well. It keeps your personal data safe, and synchronization via Dropbox between the various versions of the software works without a hitch. The folks at AgileBits have resisted the temptation to clutter 1Password with new functionality, opting for a streamlined interface—and that's appropriate for an app intended to do most of its work behind the scenes.

1Password 4.5 is compatible with both iPhones and iPads, and requires iOS 7.0 or higher.

—MARCO TABINI

PHOTOGRAPHY APP

## Carousel Photo Utility Is Promising but Disorganized

**Carousel**



PRICE:  
Free

COMPANY:  
Dropbox  
carousel.com

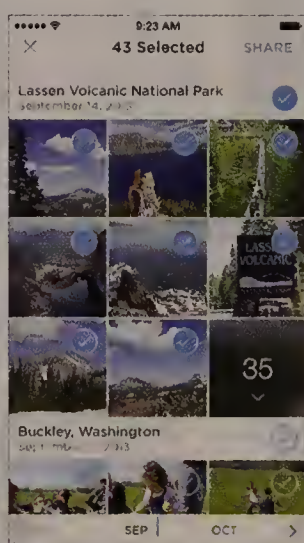
Dropbox has jumped into the photo-app fray with Carousel, which presents all the images

in your Dropbox account in the form of a timeline.

Carousel is heavy on the nostalgia factor, but its big weakness right out of the gate is that you can't tell it what *not* to sync. My Dropbox contains a copy of my iPhoto library, but it also includes backups of ten years' worth of artwork, app icons, videos,

and the like. My timeline certainly offers welcome flashes of nostalgia, but they're often adrift in a sea of random icons and rejected drawings.

You can hide images you don't want to view in Carousel, but you can delete only those images you've already hidden, which makes for a protracted process. We all occasionally take images we later want to



remove, and Carousel's auto-upload feature makes deleting them more difficult. You also can't edit an image's date metadata, so if you have undated images, they all wind up at the beginning of your timeline.

I do see promise in Carousel. Scrolling through the timeline offers a fascinating look at your life over the years, and viewing high-quality

images takes a mere second or two—Carousel loads them faster than many other cloud-based image services do. The sharing experience is delightful, and I love the idea of having Instagram Direct-like conversations with my Carousel-using friends.

But right now, Carousel is a disorganized front-end gallery for your Dropbox photos. If it improves the process for deleting images and adds metadata editing and album support, perhaps I'll be persuaded to take another trip down memory lane.

—SERENITY CALDWELL

## Checkmark 2 Empowers Your Reminders and Lists

### Checkmark 2



PRICE:  
\$6

COMPANY:  
Snowman  
builtbysnowman.  
com

We all make a lot of lists to organize our busy days, and the smartphone is an ideal tool for that

task. Though I appreciate the handiness of Apple's Reminders app, when I want real power I turn to Snowman's \$6 Checkmark 2 for iPhone.

What sets Checkmark apart is its excellent set of tools and its slick, simple interface. Recently redesigned for iOS 7, the app also has a bunch of new features.

Perhaps the coolest part is its ability to create location

groups. Say you need to pick up some milk—just set a location-based reminder. If you frequent multiple grocery stores, Checkmark can alert you when you're near any of them. Granted, it can't automatically detect those locations; you have to enter them.

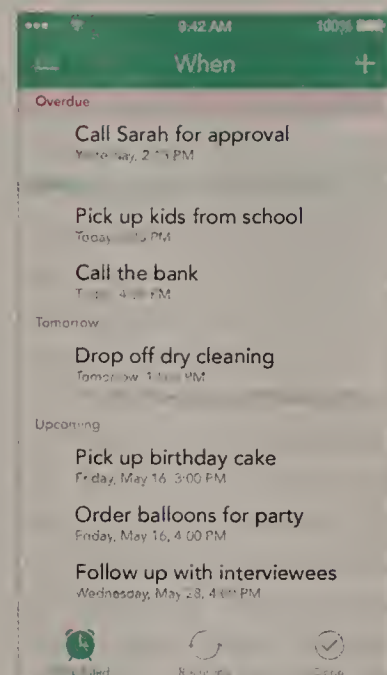
Checkmark can also create time-based tasks, including recurring ones at custom and standard intervals. You can quickly reschedule time-based reminders. Swipe right to left on an item, and a Reschedule button appears; tap it for a quick-pick snooze menu (10 minutes, an hour, or a day). It's an ideal option for chronic procrastinators like me.

Checkmark 2 adds a new

type of reminders: lists. You can create multiple lists with subheads—so, for example, if one portion of your shopping list refers to a particular meal, you can group those items under a subhead. You can also drag items to rearrange them within lists. I'd like to be able to collapse subsections, as well as to assign lists to a certain location or time.

Checkmark is specifically for the iPhone; it runs on the iPad only in compatibility mode. Though you can sync lists with iCloud, the lack of a Mac- or Web-based client means you can edit lists only on your iPhone.

If you're looking for a little more power when creating



reminders, and especially if you're not satisfied with Apple's Reminders, Checkmark 2 is definitely worth checking out.—DAN MOREN

## Cloak Creates Secure, Hassle-Free Net Connections

### Cloak



PRICE:  
Free app;  
unlimited data,  
\$10 per month;  
mini plan (5GB),  
\$3 per month

COMPANY:  
Bourgeois Bits  
getcloak.com

Everyone knows the importance of making sure their data is secure, but for most of us, network security probably ranks

below flossing in our priorities.

That's why I'm so fond of Bourgeois Bits' Cloak. The app and its attendant data service ensure that your communications remain secure—and best of all, they require little intervention.

Cloak is straightforward: You designate certain networks as trusted—for most

people, that's their home and office networks. Then you tell Cloak to secure your connection whenever you're not on one of those networks.

Cloak secures the connection by using an encrypted virtual private network (VPN) service, the same technology many of us rely on when connecting to our work networks from outside the office. Once you advance past the initial setup, the whole process happens automatically, although you can choose to be more hands-on.

Cloak syncs your list of secure networks and preferences among all your Apple devices, both iOS and Mac. Update your preferences on

one device, and just tap a few buttons to sync those settings to your other devices. Cloak's simple, friendly interface uses color-coded icons to describe your current network security situation.

One of my favorite features is Transporter, which allows you to log in to a secure server in a different country. If you've ever hankered to try, say, BBC's iPlayer, which is accessible only in the UK, or if you want to watch U.S.-locked content on Amazon or Hulu from abroad, Transporter is the way to go. Eight countries are currently available.



The Cloak app is a free download that works on your iPhone, iPad, or iPod touch running iOS 7.0 or later. You'll

have to pony up for the service, which offers two subscriptions: an unlimited data plan for \$10 per month or a mini plan (limited to 5GB) for \$3 per

month. The company offers a 30-day free trial.

Given how much of our daily life and business we conduct online, the question isn't really whether you can afford to sign up for Cloak—it's whether you can afford not to.—DAN MOREN



CALENDAR APP

# Fantastical 2 for iPad Is a Bigger and Better Calendar App

## Fantastical 2



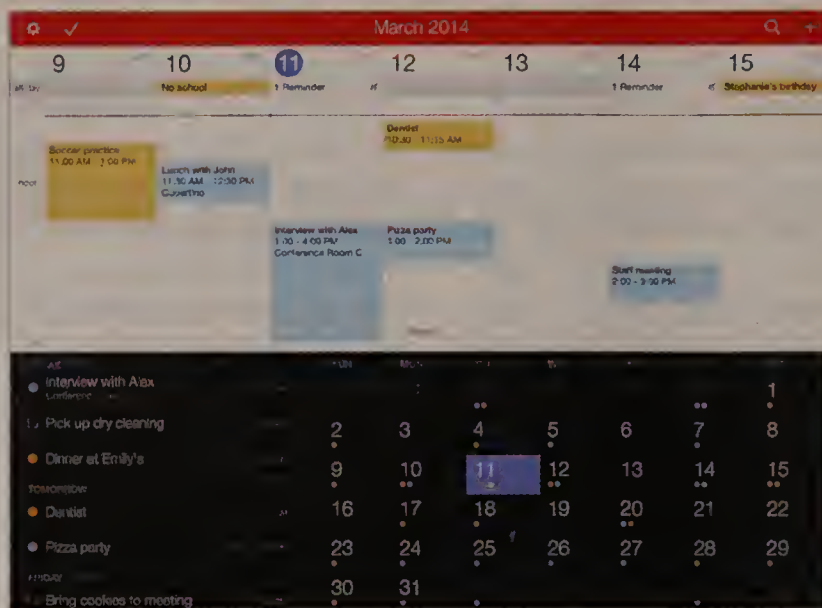
PRICE:  
\$10

COMPANY:  
Flexibits  
flexibits.com

Flexibits' \$10 Fantastical 2 for iPad gives you everything that's great about the iPhone

version of Fantastical, in an interface that takes full advantage of the iPad's larger screen.

To adapt the iPhone version's vertical orientation to the iPad's wide screen, the company devised the three-pane Dashboard, with a large DayTicker across the top, a scrolling event list on the bottom left, and a monthly calendar on the bottom right. Swipe down on the DayTicker to get a detailed week view. Swipe a second time for a full-screen calendar.



The Dashboard offers the same views and options in both landscape and portrait orientation. The three Dashboard sections stay in sync: Scroll one, and the other two keep up; tap a date, and the other sections jump to that date. It's elegantly done.

Tap any event to see its details. If the item includes a precise location, an inline map appears; tap the arrow to go to a map app. To create a new event, tap and hold anywhere in the DayTicker or monthly calendar, or tap the plus button (+) in the title bar.

Adding events is where Fantastical demonstrates its flagship feature: Type a description in everyday language, and the app interprets it and creates an event. For example, type "Lunch with Jon Monday at Amici's" and you get an appointment called "Lunch with Jon," scheduled for Monday at noon, with Amici's as the location. Plus, Fantastical 2 is multilingual (it understands English, French, German, Italian, and Spanish).

If you're a fan of Fantastical on the iPhone or the Mac, you'll love the iPad version. If you currently use a different calendar app, the Fantastical 2 interface may take getting used to. But in the end, that interface, along with Fantastical's unique features, is likely to win you over. —DAN FRANKS

TABLET STAND

# Gogo Stump Stand Succeeds With Simplicity

## Stump Stand



PRICE:  
\$25

COMPANY:  
Gogo  
stumpstore.com

The success of the Gogo Stump Stand stems from its simplicity: The stand has no moving parts to break, and

you don't have to fiddle with it or adjust it to find the right position. The Stump Stand is simply a solid block of material, molded from a chunk of silicone, with a groove sliced out of it. Yet it offers three ways to position your iPad (it can also hold an iPhone).

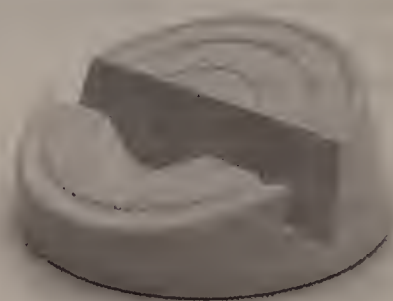
The lean—middle—position inclines your iPad at just the

right angle for easily glancing down at it. The upright angle is useful when the device is closer to eye level, as when you recline in a chair, and the ramp position is perfect for working at a standing desk. The Stump supports both landscape and portrait orientations; in portrait, a handy little cutout in the front keeps the tablet's Home button accessible.

The Stump is surprisingly heavy—it has a metal disc hidden inside, making it stable enough so that your device is unlikely to tip (though when the stand is holding a full-size iPad in portrait orientation,

you'll want to avoid tapping the screen too hard). Plus, the Stump's grippy underside prevents it from sliding around on your desk.

The Stump is available in seven colors: black, royal blue, white, red, sea glass, hot pink, and green—and the company also does custom versions sporting the logo of your choice.



At \$25, the Stump is neither the cheapest nor—by any stretch—the priciest of stands, but it does have longevity on its side: I've had the original model on my desk for three years and it shows no signs of wear and tear (just a bit of dust). As of this writing, I've been using the newer silicone version for only a short time, but it has given me no reason to believe it won't live up to its predecessor's reputation. If you're in the market for a simple but eminently serviceable stand for your iOS device, I can't recommend the Stump Stand highly enough. —DAN MOREN



# PDFpen Is Loaded With Tools—But It's Buggy

## PDFpen



PRICE:  
iPhone, \$5;  
iPad, \$15

COMPANY:  
SmileOnMyMac  
smilesoftware.com

Mac. Although it's great to have access to portable PDF editing tools, the iOS versions fall short.

PDFpen for iPad and iPhone offer extensive tools for creating new PDF documents, as well as for marking up and editing existing ones. Importing documents into PDFpen is easy. You can import the files from a com-

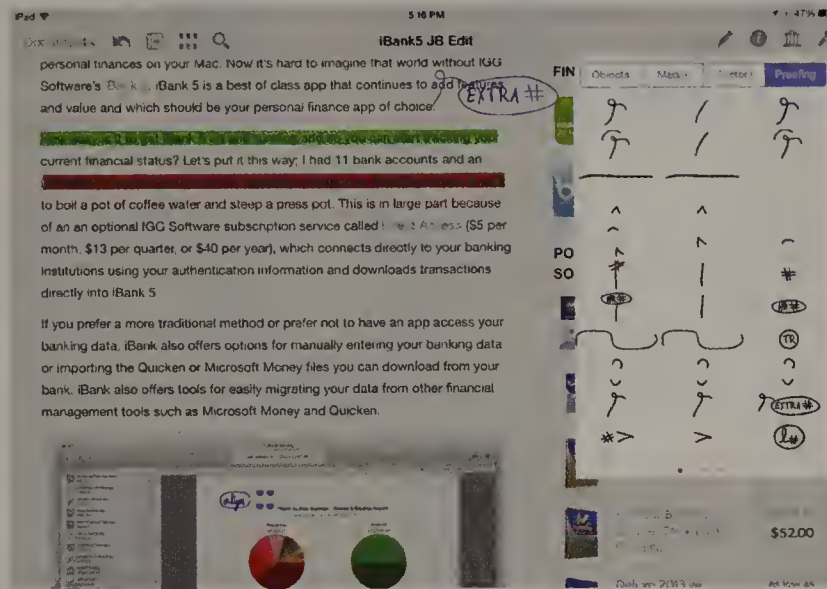
patible service, such as Box, Dropbox, Evernote, or Google Drive, or from apps that support iOS's 'Open in' menu. You can create new documents based on a template,

photo, or clipboard item. Tap a document to open it. A title bar at the top offers document management and editing tools. On the left side are tools for undoing your

last edit, displaying page

thumbnails, and searching. On the right are markup, annotation, and setup tools. A Library tool provides predefined objects, options for inserting photos, and proofreading symbols. A Correct Text tool permits minor edits in a single line.

While PDFpen has satisfactory editing and markup tools, both iOS versions are buggy. In the iPad app, I encountered incompletely rendered pages and stuttering scrolls. In the iPhone app, pages with content sometimes appeared blank. Here's hoping that an update will address these issues. —JEFFERY BATTERSBY



# Add "well-traveled" to your resume.

In today's global economy, job candidates with language skills are increasingly sought after. Make yourself more competitive by adding a new language to your skill set. Whether you want to discuss a project, greet new clients, or meet your goals in another language, the award-winning Rosetta Stone® method works. Without memorizing or translating.

You'll start with the basics, build to phrases and conversations—and before you know it, you'll be speaking confidently in your new language. Next career move? Yours.

LEVELS 1, 2 & 3

**\$399**

LEVELS 1, 2, 3, 4 & 5

**\$499**

FREE SHIPPING

USE PROMO CODE: ozs074

(866) 603-1003 | [RosettaStone.com/traveled](http://RosettaStone.com/traveled)



**Rosetta Stone**

©2014 Rosetta Stone Ltd. All rights reserved. Free shipping for products shipped within the contiguous United States only. Offer limited to TOTALe® Co-ROM set purchases made directly from Rosetta Stone and cannot be combined with any other offer. Offer valid through November 30, 2014. Rosetta Stone® TOTALe® includes interactive online services that require online access and are offered on a subscription basis for a specified term. Online services must begin within 6 months of purchase or are subject to forfeiture. Rosetta Stone, TOTALe and other marks used herein are the property of Rosetta Stone Ltd. and are used and/or registered in the United States and other countries.



# ios 7

## BEYOND THE BASICS

### IT DOESN'T TAKE MUCH TO GET STARTED

on an iPhone or iPad: They're pretty much pick-it-up-and-use-it devices. But mastering them takes a bit more effort. Some useful settings aren't immediately obvious, specific workflows can take a while to remember, and certain apps do things in less-than-linear ways.

That's why we've compiled, in the pages that follow, a list of things that we think all savvy iOS users should know how to do. If you've been using an iPhone or iPad (or reading Macworld stories about them) for any length of time, you probably already know a lot of this less obvious stuff. But as we've said before in similar stories, we bet you don't know all of it.

**BY MACWORLD STAFF** | PHOTOGRAPHY BY MARK JOHANN





# SETUP



## 3 WAYS TO CUSTOMIZE THE INTERFACE

### 1. Make the text larger and bolder:

The Helvetica Neue font can be difficult to read at times. If you have trouble reading text on your iPhone or iPad, go to *Settings* → *General* → *Accessibility* → *Larger Text* to increase the default font size on your device. To make that font size even larger, enable *Larger Accessibility Sizes* in apps that support the feature. And to make Helvetica Neue show up just a bit bolder, visit *Settings* → *General* → *Accessibility* and enable the *Bold Text* slider. (You'll have to

restart your iPhone after doing this.)

**2. Bring back the buttons:** iOS 7 has ditched most of the traditional buttons that past versions of the mobile OS offered. But if you're jonesing for that old familiar arrow shape, you can enable it via *Settings* → *General* → *Accessibility* → *Button Shapes*.

**3. Control the contrast:** Some of us like white text on light backgrounds, but others find that it gives them headaches and hurts their eyes. If you're in that latter

group, you'll find several options that make for easier viewing under *Settings* → *General* → *Accessibility* → *Increase Contrast*.

To increase text and background contrast for features such as Control Center and Notification Center, activate the *Reduce Transparency* option. To darken the highlight colors found in an app's menu and tab bar (the pink color of the Music app, for instance), toggle the *Darken Colors* switch. And to darken the white backgrounds found in apps such as Settings, use the *Reduce White Point* screen to bring the piercingly pure white coloration down to a more ocularly friendly light gray.

## MANAGE YOUR RINGERS

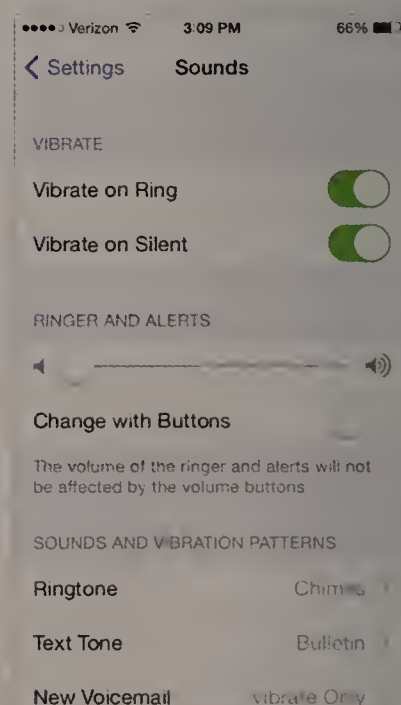
To choose tones for calls, texts, and the like, go to *Settings* → *Sounds*. You can also set the ringer volume here, in the 'Ringers and Alerts' section.

You can use the two buttons on the left side of your phone (or the toggle switch on the right side of your iPad) to change the volume; but the precise functions of those buttons may vary.

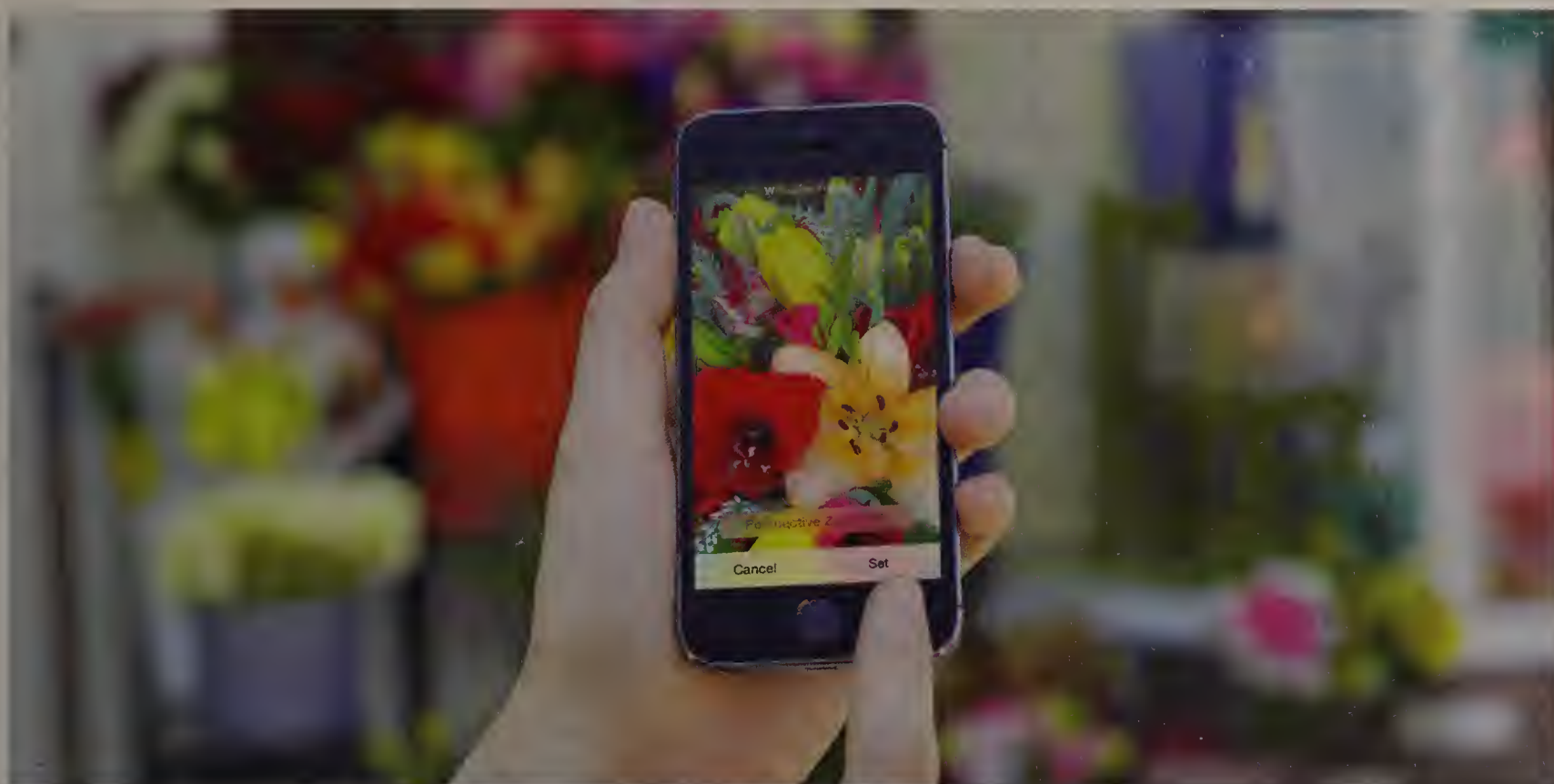
If 'Change with Buttons' is active in *Settings* → *Sounds*, pressing the volume buttons will alter the ringer volume, as long as you're not listening to music or podcasts, playing games, or watching videos. Otherwise, the volume buttons will adjust your media playback volume.

The mute button on an iOS device turns off the ringer, notification sounds, and sound effects. If you have an iPad, the button above the volume buttons can mute the device or lock its rotation. To activate one or the other of these functions, go to *Settings* → *General*. To mute an iPad quickly, press and hold the bottom volume button.

Or bring up Control Center on any iOS device, and tap the *Do Not Disturb* button (it has a crescent moon icon).



**SET RINGERS** If the 'Change with Buttons' option is inactive, the volume buttons on your phone won't change ringer volume.



## CUSTOMIZE YOUR BACKGROUNDS

You can individualize the look of your iOS device's screen by adding images to its lock and home screens. To do so, go to *Settings* → *Wallpapers & Brightness* and, in the Wallpaper area, tap *Choose a New Wallpaper*. Then select

a dynamic pattern (one that moves), a still image created by Apple, or (from the Photos area) an image of your own.

A preview of the selected image will appear on your device's screen. Move it around by dragging it, and scale it with pinch and stretch gestures. When you have it where you want it, select suitable options from among *Set Lock Screen*, *Set Home Screen*, *Set Both*, and *Perspective Zoom (On or Off)*.

You can turn *Perspective Zoom* off if you dislike its quasi-3D appearance. To restore it, return to *Settings* → *Wallpaper & Brightness* and tap the image of the lock screen (the one that lacks icons) in the Wallpaper area. In the resulting screen, turn *Perspective Zoom* to *On*. Then return to the *Wallpapers & Brightness* screen, tap the image of the home screen, and turn *Perspective Zoom* to *On* there as well.

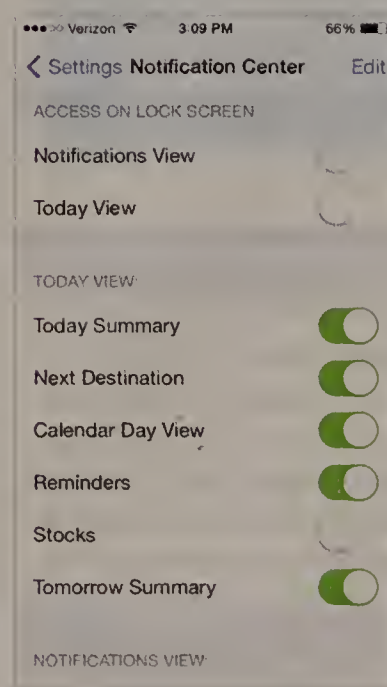
## MANAGE NOTIFICATIONS

Pop-up notifications can be a boon or bane, depending on how you feel about them. Most of the controls for them are located in *Settings* → *Notification Center*.

At the top of the screen are two settings for lock-screen notifications. By default, when you swipe down on the lock screen, you'll see three notification options: *Today*, *All*, and *Missed*. If you disable *Notifications View* in the Notification Center setting but leave *Today View* switched on, you'll see notifications for the current day only. If you also switch off *Today View*, Notification Center won't appear when you swipe down on the lock screen.

The *Today View* section lets you configure what will appear in Notification Center. You can turn on or off options such as *Today Summary*, *Calendar Day View*, *Reminders*, and *Tomorrow Summary*. Each option is self-explanatory. If you find Notification Center too crowded, switch off any option you don't want.

In the *Notifications View* section, you can choose to view your notifications manually or sorted by time. If you choose *Sort By Time*, the most recent notifications will appear at the top of the list. If you choose *Manually*, you can then tap the screen's *Edit* button and, from the Include list of apps below, drag apps to put them into the order you prefer.



**NO LOCK SCREEN**  
Don't want notifications to appear in your mobile device's lock screen? You can turn them off here.



# INPUT



## 20 THINGS YOU CAN DO WITH SIRI

**1. Handle the basics:** Siri can perform many tasks for stock iOS apps: Calendar, Clock, Contacts, Mail, Maps, Messages, Music, Notes, Phone, Reminders, Safari, Stocks, and Weather.

**2. Search the Web:** Siri can also run Web searches (using Bing, Google, or Yahoo), get answers to questions via Wolfram Alpha ("What's the square root of pi?" "What's the population of Mantua?"), find reviews of businesses (on Yelp),

search Wikipedia, find reviews of movies (on Rotten Tomatoes), make restaurant reservations (using OpenTable), and find sports results (via Yahoo). Ask a natural-language question and tap a search result to go to the source site (or app).

**3. Teach Siri relationships:** Instead of saying the full name of a person in an instruction to Siri, say "[your wife's name] is my wife"—and Siri will remember that designation. In the future, you can just say "Text my wife," and Siri will know exactly whom to text. Alternatively, edit your own record in the Contacts app, tap *Add Related Name*, and choose a relationship and a corresponding contact.

**4. Teach Siri nicknames:** To help Siri understand complicated names, or to differentiate between common names,

give your contacts nicknames: Open a person's record in the Contacts app, tap *Edit*, tap *Add Field*, tap *Nickname*, and add the person's nickname. You can use that nickname when giving Siri commands.

**5. Correct Siri's misreadings:** If your friend pronounces her name "Heh-lee-na," but Siri says "Hel-eh-na," tell Siri, "That's not how you pronounce Helena." Siri will provide you with a few different clips of examples. Choose the one that's closest to the actual pronunciation, and Siri will use it from then on.

Similarly, if Siri misinterprets a command, just tap the onscreen bubble containing the incorrect text. Then edit the text and resubmit the command. Alternatively, when editing the text, tap the microphone icon on the onscreen keyboard to speak the corrected text. Or

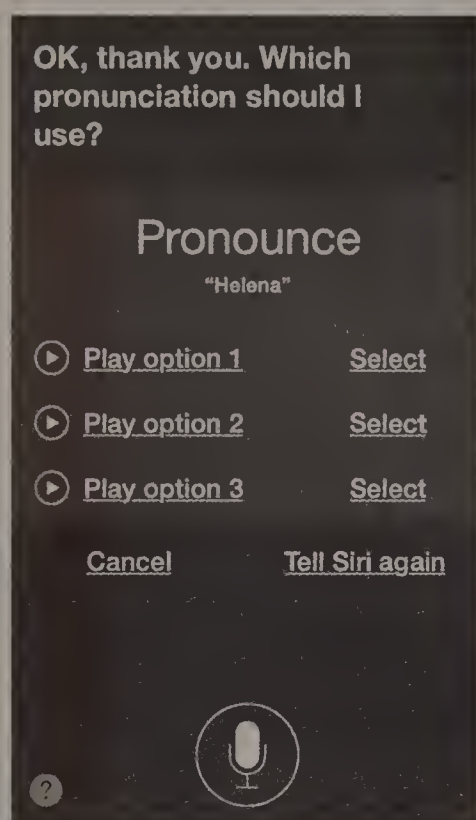
say “Learn how to pronounce [name]’s name,” and Siri will comply, first asking you how to pronounce the first and last names, and then offering you options for replicating that pronunciation.

**6. Change settings:** You can tell Siri to turn Bluetooth on or off, open a specific Settings pane, and even turn on Airplane Mode. If you can’t remember how to get to the screen for a setting that Siri doesn’t directly support, you can open many top-level settings groups, and some second-level screens, in the Settings app—say “Open Notification Center settings,” for example, or “Open Accessibility.” This feature doesn’t work for every section of the Settings app—in particular, those related to security.

**7. Send a message:** Siri lets you create and send text and email messages easily. Say “Send my wife an email” or “Text my wife,” and Siri will create a new message and ask you what you want the message to say. After you dictate your message, Siri will display a preview (say “Read my message” to instruct Siri to read it back to you) and will then prompt you to send the message. Say “Send,” and off it goes.

**8. Be efficient:** Put as much detail as possible in your initial command to Siri. For example, instead of saying “Text my wife,” waiting for Siri to ask you what you want your text message to say, and then dictating “We need to pick up the kids from the party at 4 p.m.” just say “Text my wife that we need to pick up the kids from the party at 4 p.m.” This works for calendar events and reminders, too.

**9. Get the message(s):** Say “Do I have any new messages [or voice-mail or email]?” and Siri will tell you how many new text messages (or voicemails or email messages) you’ve received. You can ask Siri if you have messages from a particular person, too: “Do I have email from my wife?” Say “Read my new messages [or email]” or “Play my new voice-mails,” and Siri will read or play them.



**HELP SIRI SPEAK PROPERLY** If Siri has difficulty pronouncing a contact’s name the right way, you can teach it the correct pronunciation.

**10. Fill your calendar:** Siri will add an event to your calendar if you say “Make an event for 10 a.m. Friday called [event name].” But if you add “to [calendar name],” you can choose a specific calendar; say “with [contact name]” and Siri will add that person as an attendee—and will send the person an invitation if he or she is in your Contacts.

You can also edit events: “Move my Friday 10 a.m. [event name] to 1 p.m.” moves the event to the afternoon; “Add Ed Wood to Monday’s 12:30 meeting” adds that person as an attendee.

Siri can check your calendar, too. Say “When’s my meeting with Dan Moren?” and Siri will tell you. Say “Show me Tuesday,” and Siri will show you your scheduled events for that day.

**11. Set a timer or alarm:** Siri makes the built-in Clock app’s timer and alarm-clock features more convenient. Say “Set a timer for 10 minutes,” and Siri will create (and start) a 10-minute timer in the Clock app—you don’t have to open the app. “Set an alarm for 7 a.m.” creates a new alarm for that time.

**12. Get directions:** For directions from Siri based on iOS’s Maps app, say, for example, “Show me how to get to San Jose.” For transit or walking directions (which Apple’s Maps app doesn’t yet support), add “via transit” to the end of your command, and Siri will display a list of installed and App Store third-party routing apps. Tap one—such as the Google Maps app—and Siri will launch that app, preconfigured with your destination. (Instead of choosing a transit app, you can opt for a third-party navigation app, such as Navigon.)

**13. Take notes:** Say “Make a note...” or “Note that...” and you can quickly dictate a new note in Notes. Alternatively, say “Make a note called [note name],” and you can then add text to the note by saying “Add text.” You can add content to an existing note later on by saying “Add text to [note name].”

**14. Set reminders:** You can use Siri to schedule reminders by saying something like “Remind me to call Dan at 10:30 a.m. tomorrow.” But Siri can also handle reminder math: “Remind me to cancel my trial subscription in 14 days.” And it can configure location-based reminders: “Remind me to call the Y when I get home.” (Say “Show me my reminders” to quickly view your tasks.)

**15. Eat out:** To find nearby restaurants, ask Siri. Say “Are there any good delis nearby?” to call up a list of delis, with prices, location, and Yelp ratings. You can search by location, cuisine, price, indoor or outdoor seating, or any combination of these. Tap a listing for detailed information. Say “Find me a table for four for dinner tonight” to see nearby restaurants with openings; tap one to make the reservation. You can even check for reservations at a specific restaurant: “Book me a table for two at 7 p.m. at the Romantic Candle.”

**16. Launch apps:** Say “Open [app name],” and Siri will open that app (assuming you have only one app



by that name). If your phone is locked, Siri will prompt you to unlock so that it can open the app as you requested.

**17. Play media:** Siri can launch the Music app, but it can also start playback directly. Say “Play playlist Road Trip,” and Siri will start playing the playlist called “Road Trip.” Other things you can tell Siri to play include artist names, album names, and track names.

**18. Be more social:** If your hands are occupied, Siri can post to Twitter or Facebook for you. For example, say “Tweet that the scenery in Napa is beautiful” or “Post to Facebook that the weather in Seattle is surprisingly sunny today,” and Siri will do the rest. It can also search Twitter for you. Say “What are people saying about the Giants game?” or “Search Twitter for the Giants game,” and Siri will show you some relevant tweets. Similarly, say “What’s Dan Moren saying?” and Siri will show you that person’s ten most recent messages.

**19. Be sporty:** You don’t have to unlock your phone and open your favorite sports news app to get the latest scores. Just say “What’s the score of the Bears game?” and Siri will tell you. But Siri actually knows a lot more about sports than that. For example, you can get detailed information about teams, players, and schedules by asking things like “Who’s in first place in the National League West?” or “What is Brandon Belt’s batting average?” or “Who do the Bulls play next?”

**20. Pick a flick:** Siri can also tell you all about movies. You may be aware that you can ask Siri for movie showtimes, but try asking about particular movies and actors: “Is the new *Captain America* movie any good?” “What time is *Mr. Peabody & Sherman* showing?” “What movies had both Tom Hanks and Meg Ryan in them?” Siri shows you the results, and you can tap any movie or rating for more info—you can even view trailers for current movies. Tap a theater to view its location in the Maps app.

## MAKE SIRI KEEP LISTENING

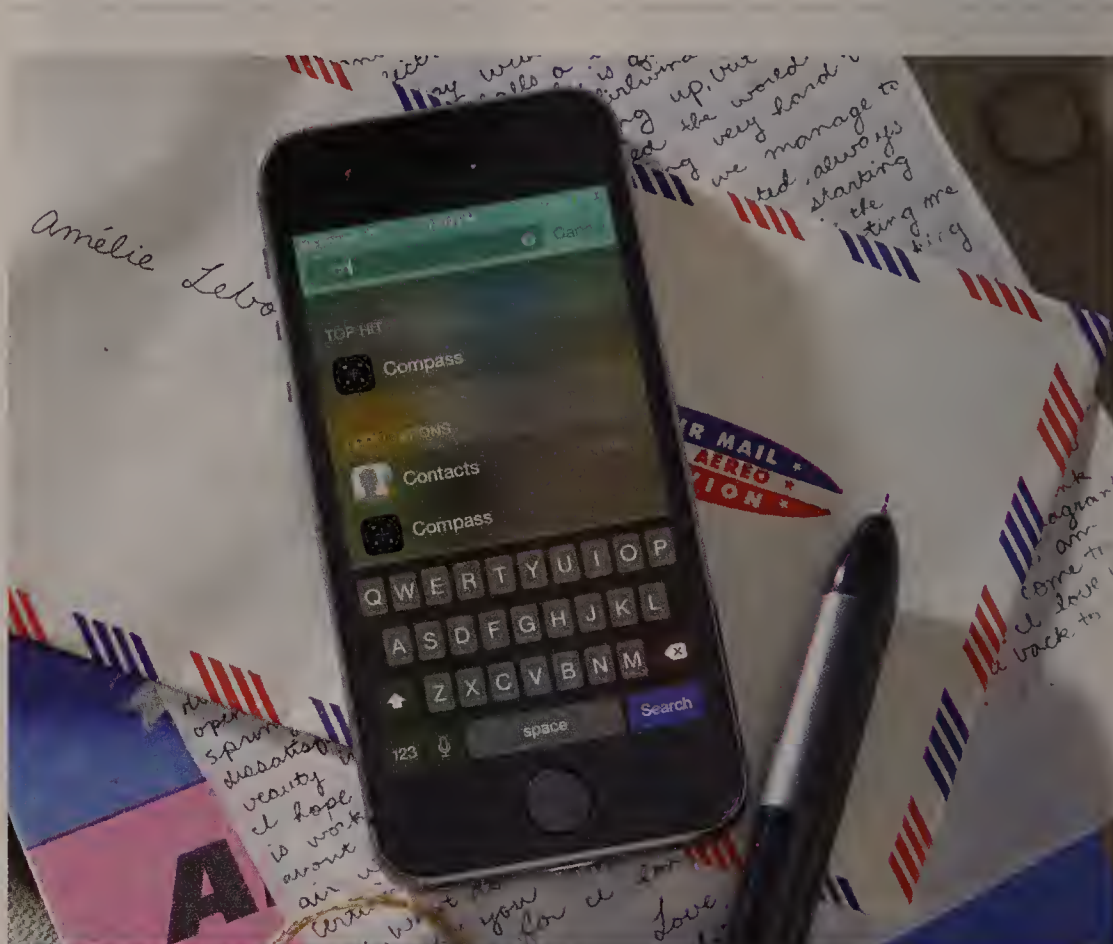
Does this ever happen when you speak to Siri? You: “Remind me to—” Siri: “What would you like me to remind you?”

Siri may be there for you, but sometimes it doesn’t listen as attentively and as patiently as it ought to. If you have iOS 7.1 installed, however, you can hold down the Home button to make Siri listen for as long as you like. Siri won’t stop listening until you lift your finger.

This feature is extremely helpful when you want to record the entirety of messages and reminders.

## ADD SPECIAL CHARACTERS

Some characters that you may want to type on an iOS device don’t appear on the built-in keyboard, even when you tap the <123> key (for numbers and punctuation) or the <#+=> key (for less-common punctuation). Though



## SEARCH YOUR iPhone OR iPad

From any home screen, swipe down from the top of the screen. Type search terms in the ‘Search iPhone’ or ‘Search iPad’ field at the top of the screen; results will display as you type. From that search field, you can look for items in various categories: apps; email; contacts; notes; calendar events and reminders; voice memos; messages; and music, videos, audiobooks, and podcasts.

To choose which types of items the search results should display, go to *Settings* → *General* → *Spotlight search*. Tap a category to check or uncheck it, and drag categories up or down in the list to change the position where they will appear in your search results.

To search for text in the bodies of email messages, you must use the Mail app itself. Tap a mailbox, and then swipe down to display the search field. Your OS device can search email messages on your mail server, but doing so can take a while if you’re on a cellular connection.



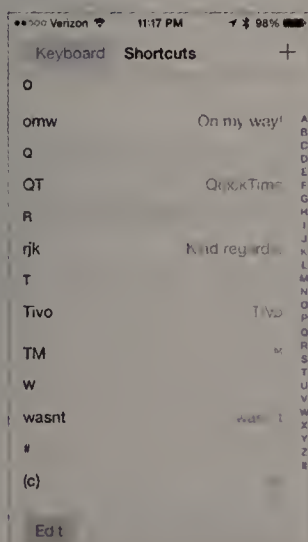
Touch and hold this...	To get these symbols...
A	ā ā̄ ā̈ ā̇ ā̆ ā̅
C	č ċ ċ̇
E	ē ē̄ ē̈ ē̇ ē̆ ē̅
I	ī ī̄ ī̈ ī̇ ī̆ ī̅
L	ł
N	ñ ñ̄
O	ō ō̄ ō̈ ō̇ ō̆ ō̅
U	ū ū̄ ṻ ū̇ ū̆ ū̅
S	š š̄ š̈ ṧ š̆ š̅
Y	ÿ
Z	ž ž̄ ž̈ ž̇ ž̆ ž̅
, ! [iPad]	'
. ? [iPad]	"
0	°
-	— •
/	\
\$	₩ £ ¢ € ¥
&	§
.	...
?	¿
!	¡
,	‘ ’ ‚
"	« » „
%	‰

many special characters are available, they are hidden. To insert one of these characters, first touch and hold the appropriate key (as listed in the chart at left), slide your finger over to the accented variant or other special character in the pop-up menu, and then let go. To produce an accented character such as à, ç, or é, for example, touch and hold the base character (A, C, or E, respectively); for

capital letters, tap the <Shift> key first. On the iPad's alphabetic keyboard, you can slide upward on the comma key to type an apostrophe (') and slide upward on the period key to type a quotation mark ("). On an iPad or an iPhone, slide upward on the <123> key and then over to any key on the numeric keyboard to type the matching number or punctuation mark.

## TYPE WITH SHORTCUTS

To save time and improve your accuracy when you type on an iOS device, you can set up shortcuts, each of which expands a short string of characters into something longer. For example, I've set up a useful shortcut that enables me



### Dictation Machine

To use dictation on your iOS device, tap the microphone icon next to the virtual spacebar. To have Siri insert a punctuation mark, capitalization, or a symbol as you speak, use the corresponding word or phrase listed in the chart below or at right.

Say this...	To get this result...
<b>BASIC PUNCTUATION</b>	
New paragraph	A new paragraph
New line	A new line
Period or full stop	.
Question mark	?
Exclamation point	!
Colon	:
Semicolon	;
Comma	,
Apostrophe or single quote	'
Quote	"
Underscore	_
<b>MORE PUNCTUATION</b>	
Open parenthesis or open parens	(
Close parenthesis or close parens	)
Open bracket	[
Close bracket	]
Open brace	{
Close brace	}
Hyphen	-
Minus or minus sign	-
Dash or en dash	—
Em dash	—
Dot dot dot or ellipsis	...

Say this...	To get this result...
<b>CAPITALIZATION</b>	
New	Capitalize the next word.
Cap	Capitalize the next word.
Caps on ... caps off	Add initial capitals throughout a section of text.
All caps	Uppercase the next word.
All caps on ... all caps off	Uppercase a section of text.
No caps	Lowercase the next word (one that would be autocapped).
No caps on ... no caps off	Lowercase a section that would otherwise be autocapped.
<b>CONTROLLING SPACES</b>	
Spacebar	Prevent a hyphen in an autohyphenated word.
No space	Omit a space between the next two words.
No space on ... no space off	Prevent a section of text from having spaces between words.
<b>NUMBER</b>	
Dot or point	.
Numeral	Represent as a numeral instead of as a spelled-out word.
<b>BASIC SYMBOLS</b>	
Asterisk	*
Percent sign	%
Ampersand	&
At sign	@
Degree sign	°
Pound sign	#
<b>MORE SYMBOLS</b>	
Greater-than sign	>
Less-than sign	<
Forward slash	/
Backslash	\
Caret	^
Copyright sign	©
Registered sign	®

to produce the all-purpose sign-off "Kind regards, Joe Kissell" simply by typing **rjk**. To set up a shortcut, go to **Settings** → **Keyboard** → **Shortcuts** and tap the plus sign (+). Type the word or phrase that you want to automate (for example, your full name, your address, or a commonly used expression), and then type a shortcut (typically just a few letters) that will expand into your chosen phrase.

You can apply the same technique to correct misspellings of names and unusual terms that iOS 7's built-in autocorrect feature may miss. In fact, when using this feature to correct your spelling, you don't need to use a shortcut: iOS 7 automatically checks to see whether what you've typed is close to any of your defined phrases, and offers to correct it if it suspects a misspelling.



# CONNECT

## 6 WAYS TO LIMIT CELL DATA USE

**1. Monitor your data use:** To see how much data you've used in the current period, go to *Settings* → *Cellular*, and scroll down to Cellular Data Usage; to zero out the amount listed there, tap *Reset Statistics* at the bottom of the screen. To create a reminder in *Calendar* to perform this step regularly, find the billing cycle dates on your phone bill. Create a new event on the morning of the first day for each cycle, and set it to repeat monthly.

**2. Monitor data use by individual apps:** Go to *Settings* → *Cellular* and scroll through the app list. Under each program's name is a listing of the data it has used in this billing cycle. Scroll to the bottom to see how much your hotspot, messaging services, and the like have used. You can also reset the numbers to zero with the *Reset Statistics* button.

**3. Turn cellular data off entirely:** If you don't want to keep track of how much of your monthly data plan you are using, you can turn off cellular data for all apps and services. Go to *Settings* → *Cellular* and slide the *Cellular Data* toggle off. This turns off data access only; you can still use your iPhone to make and receive calls and texts.



**4. Turn data off for specific apps:** To disable cellular data for particular apps, go to *Settings* → *Cellular*. But which apps should you consider turning off, and which should you leave on?

Video apps (such as YouTube) and streaming music apps (such as Apple's Music app, Pandora, and Spotify) are especially data-hungry and make good candidates for closing. Ones to leave on are favorite Web, email, and Twitter apps that you may want to be able to use when you're away from Wi-Fi.

**5. Disable Background App Refresh for certain apps:** Apps like Mail need to be able to grab new data even if the program isn't running in the fore-

ground. Other apps, like Facebook, may not require such an extravagance. To disable Background App Refresh on an app-by-app basis, go to *Settings* → *General* → *Background App Refresh*. From there, either turn off the feature altogether or disable apps individually.

**6. Stop automatic app downloads:** If you have enabled cellular data for the iTunes and App Store apps, you can get fine-grained control over what those apps can do with that data connection. Go to *Settings* → *iTunes & App Store*, and toggle *iTunes Match* on or off. Likewise, you can decide whether to enable automatic downloads for music, apps, books, and software updates.

## USE A VPN

A virtual private network encrypts Internet data flowing to and from your iOS device, to combat eavesdropping on Wi-Fi networks. Providers such as Cloak ([getcloak.com](http://getcloak.com)), PublicVPN

([publicvpn.com](http://publicvpn.com)), and WiTopia ([wiotopia.net](http://wiotopia.net)) offer paid VPN accounts.

iOS 7 provides built-in support for several common types of VPNs. To configure it with your account settings, go to *Settings* → *VPN* → *Add VPN Configuration*, fill in the details for your account, and tap *Save*. To

turn the VPN on or off, go to *Settings* → *VPN* and tap the on/off switch.

Some VPN providers offer their own apps that further simplify configuration and use. For instance, you can configure the Cloak app to activate your VPN automatically when you're on an untrusted network.



# Plant a Billion rees

Join The Nature Conservancy to plant a billion trees,  
one tree at a time, in the fight to end climate change  
at [plantabillion.org](http://plantabillion.org)

The Nature  
Conservancy   
Protecting nature. Preserving life.™



# APPS

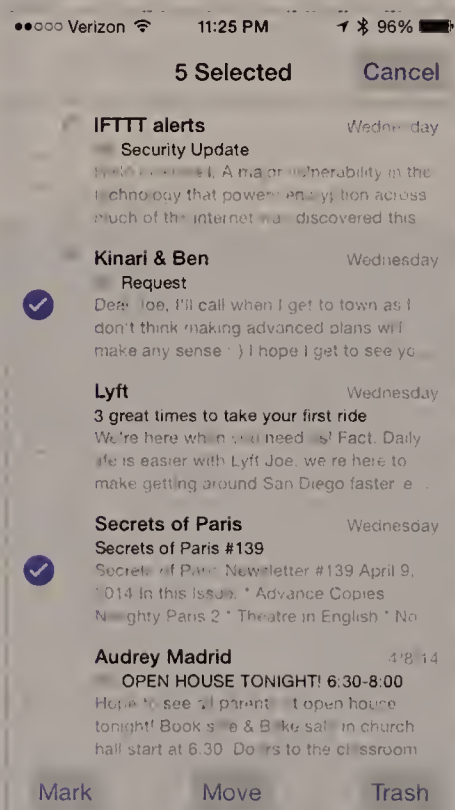
## MAIL

## COPY OR BLIND-COPY

When sending email messages, you may want to carbon-copy (Cc) people other than the main recipient(s), and you may want to blind-carbon-copy (Bcc) someone so that person will receive the message without the knowledge of the other recipient(s).

To send either type of copy, tap the *Compose* button in Mail and then tap the *Cc/Bcc, From* line, which expands to show individual Cc, Bcc, and From fields. Tap the Cc or Bcc field, enter the address(es) of the recipient(s) you want to include there, and then continue composing your message as usual.

If you have multiple email accounts—or multiple addresses for a single account—set up on your device, you can choose which one to send the current message from (and thus determine which address will receive any replies). To do this, tap your address in the From line and then tap a different address.



**MOVE MAIL** Before you can transfer mail from one mailbox to another, you must select the relevant message or messages.

## BOOKS



## CREATE AND PRINT ANNOTATIONS

You can use your finger as if it were a marker to highlight new text or to expand an existing highlight. And you can print the notes you've made.

When you select text, a pop-up menu will appear; tap *Highlight* and select a color. Or touch some text, and when the magnifier appears, start dragging; everything you touch will be highlighted in the current default color. Expanding an existing highlight works in the same way: Touch, pause, and drag. If you fail to pause, you'll flip the page instead of highlighting the text.

An AirPrint printer can print notes from your iPad; or you can email the notes to yourself and pick them up later on a computer that has printer access. The procedures are the same for both operations until the last step.

Tap the *Contents* button at the top of a page, and tap *Notes* on the Contents screen. To show page numbers from the printed version of the book (if the book's file format permits that choice), tap at the bottom of the screen. Tap the *Share* icon at the top of the screen, and tap *Edit Notes* in the pop-over. Tap the notes you want to share, or tap *Select All* at the top of the screen. Finally, tap *Share*, and then tap *Mail* or *Print* in the pop-over.

## MOVE MAIL ELSEWHERE

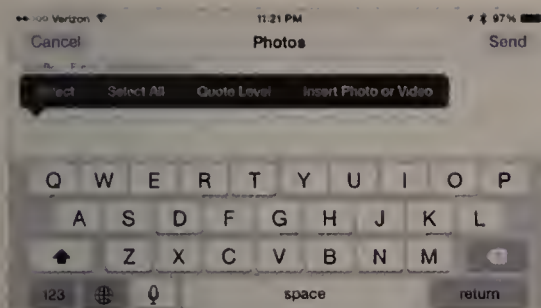
When you receive email messages while on the go, you can file them into mailboxes to get them out of your inbox and organize them to your liking. To move the message you're currently viewing, tap the folder icon followed by a mailbox name. To move multiple messages out of the current message list, tap *Edit*, select the messages you want to move,

tap *Move*, and then tap a mailbox name.

To move messages between accounts, follow the procedure outlined above—but instead of tapping a mailbox at the end, tap *Accounts* and an account name, followed by a mailbox in that account.

## ADD ATTACHMENTS

iOS 7 simplifies the process of adding attachments to outgoing messages in



**MAIL ATTACHMENTS** It's easy to instruct Mail where to position an attachment in your message.

Mail for iOS. Compose a message as usual, and tap the spot in the message where you want an attachment to go. In the pop-over control, tap *Insert Photo or Video* followed by the location (such as *Camera Roll*, *My Photo Stream*, or a photo album), followed by the photo or video. Then tap *Use*. Repeat as desired.

Mail shows the message's total size in the 'Cc/Bcc, From' header area. When you tap *Send*, your iPhone or iPod touch will prompt you to shrink the photos first. On an iPad, tap *Image Size* and then *Small*, *Medium*, *Large*, or *Actual Size*, and *Send*.

Though this technique works only for photos and videos, you can email other file types from any app that has a Share button that lists Mail as an option.

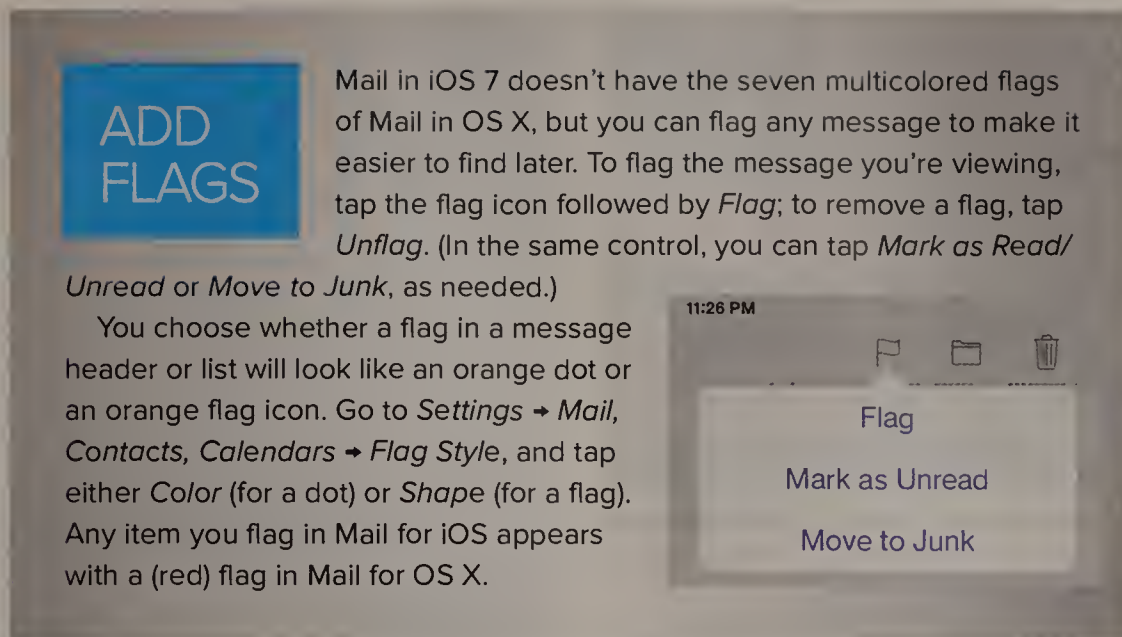
## UNTRASH MESSAGES

When you accidentally delete or move a message you didn't mean to change at all, you can exit the account, enter the Trash, and move the message back to your inbox—or you can give your iOS device a shake to make an Undo dialog box pop up. Tap *Undo* to put your message back where it belongs.

## EDIT MAILBOXES VIEW

Mail's top-level Mailboxes view—with All Inboxes, each account's individual inbox, and a list of account names—is customizable in iOS 7. To add or remove items from it, tap the button in the upper-left corner of Mail's list view until you see the heading *Mailboxes*. Then tap *Edit*, and tap items to select or deselect them.

New options in iOS 7 include *Flagged*, *Unread*, *Attachments*, *All Sent*, and *All Trash*. Like smart mailboxes, these options display matching messages from multiple mailboxes and accounts. To add a mailbox



Mail in iOS 7 doesn't have the seven multicolored flags of Mail in OS X, but you can flag any message to make it easier to find later. To flag the message you're viewing, tap the flag icon followed by *Flag*; to remove a flag, tap *Unflag*. (In the same control, you can tap *Mark as Read/Unread* or *Move to Junk*, as needed.)

You choose whether a flag in a message header or list will look like an orange dot or an orange flag icon. Go to *Settings* → *Mail*, *Contacts*, *Calendars* → *Flag Style*, and tap either *Color* (for a dot) or *Shape* (for a flag). Any item you flag in Mail for iOS appears with a (red) flag in Mail for OS X.

that isn't in the list, tap *Add Mailbox* and navigate to the one you want to use. To rearrange items, drag them up or down, using the handle to the right of each item. Tap *Done*, and only the selected items will appear in the top-level Mailboxes view.

## ADD RICH-TEXT FORMAT

By default, Mail sends your messages in plain text. To add a bit of formatting as you compose a message, select any text

and tap the *BIU* button in the pop-over, followed by *Bold*, *Italic*, or *Underline* to apply that formatting to the selected text.

The Mail app in iOS 7 doesn't provide controls for font, size, color, indentation, alignment, bulleted lists, and the like, but it preserves such formatting in messages that you forward or reply to—so you can compose a styled message on your Mac, send it to yourself, and keep it on hand in a mailbox on your iOS device. To send someone a message that includes those styled elements, first forward that message, select all the text, and tap *Quote Level* followed by *Decrease* to remove the quote bars. Then edit the text, subject, and address to your taste and send it.

## SEARCH ALL MAILBOXES

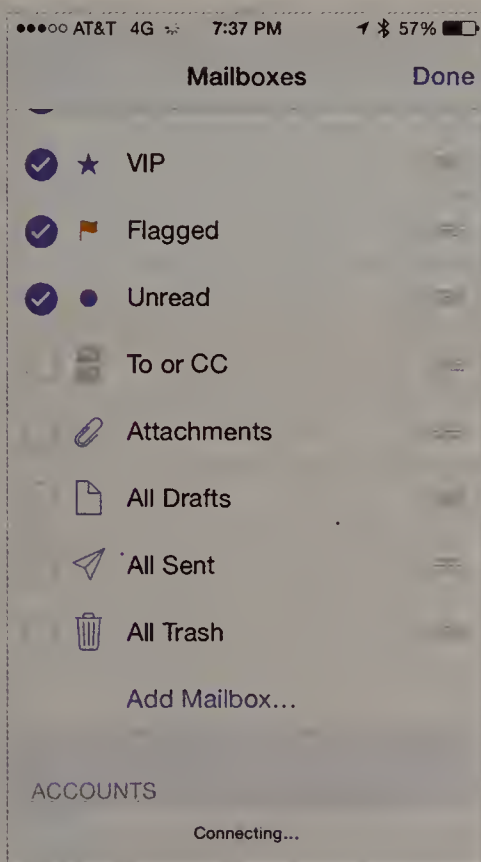
In iOS 6's Mail, you could search only the mailbox that you were currently viewing. In iOS 7, when you enter a search term, you can pull down the search results to reveal a toggle that lets you choose between searching only the current mailbox or searching all mailboxes.

### PHONE

## BLOCK CALLERS

The Phone app in iOS 7 lets you block all calls from certain numbers or contacts.

In the Recents pane of the Phone app, tap the *i* button next to a number. Scroll down to the entry 'Block this Caller'. (Or tap the *i* button next to a voicemail message in the Voicemail pane, or choose



**VIEW MAILBOXES** You can select the mailboxes that you'll subsequently see in Mail—and the order in which they'll appear there.

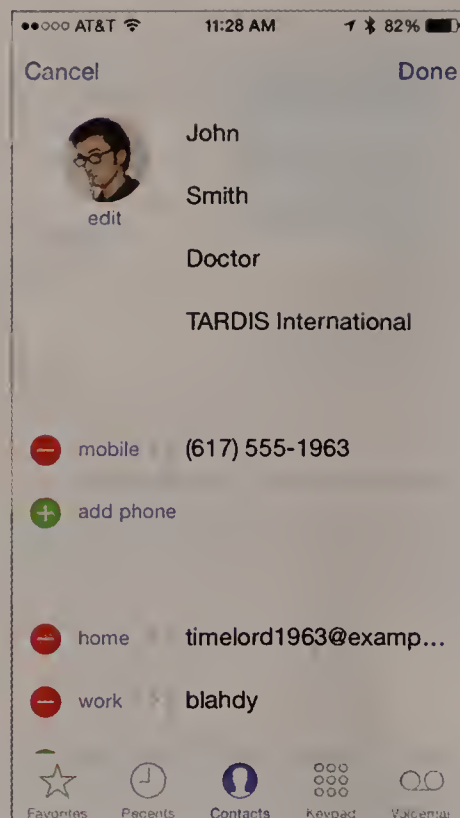


any contact stored in your device.) Tap *Block this Caller*, and you'll get a warning that activating this option will block not only phone calls but also iMessages, text messages, and FaceTime calls. Alternatively, to block calls and messages from a contact, tap *Add New...* on the Blocked screen and select a contact.

To unblock a number, go to *Settings* → *Phone* and tap *Blocked* to see a list of all blocked numbers. Swipe right to left on any entry and tap the *Unblock* button to restore that number to good standing.

## EDIT CONTACTS

To update your address books on your iOS device, first tap the *Contacts* button in the Phone app's toolbar, and select the contact you want to update. Tap the *Edit* button in the upper right, and tap any text field to alter the information in it. To remove an old phone number, email address, street address, or other entry, tap the red minus (–) icon next to it and then tap the *Delete* button. To add an entry, tap the green plus (+) button next to it. When you're finished, tap the *Done* button in the upper-right corner.



**EDIT CONTACTS IN PHONE** You don't have to open the Contacts app to edit contacts; you can do it directly from Phone instead.

Often you can assign a label to help differentiate multiple entries in a contact record. When entering a phone number, tap the label to the left to choose from

among common options such as home, work, mobile, and fax. You can also create custom labels by scrolling down and choosing *Add Custom Label*. Once you've created a custom label, it's available whenever you select a label.

If you can't see a specific field that matches the type of information you want to enter, it may be hidden. Scroll down toward the bottom of the contact record until you find the *Add Field* button. Tap that button to expose less commonly used fields such as phonetic names, nicknames, and suffixes.

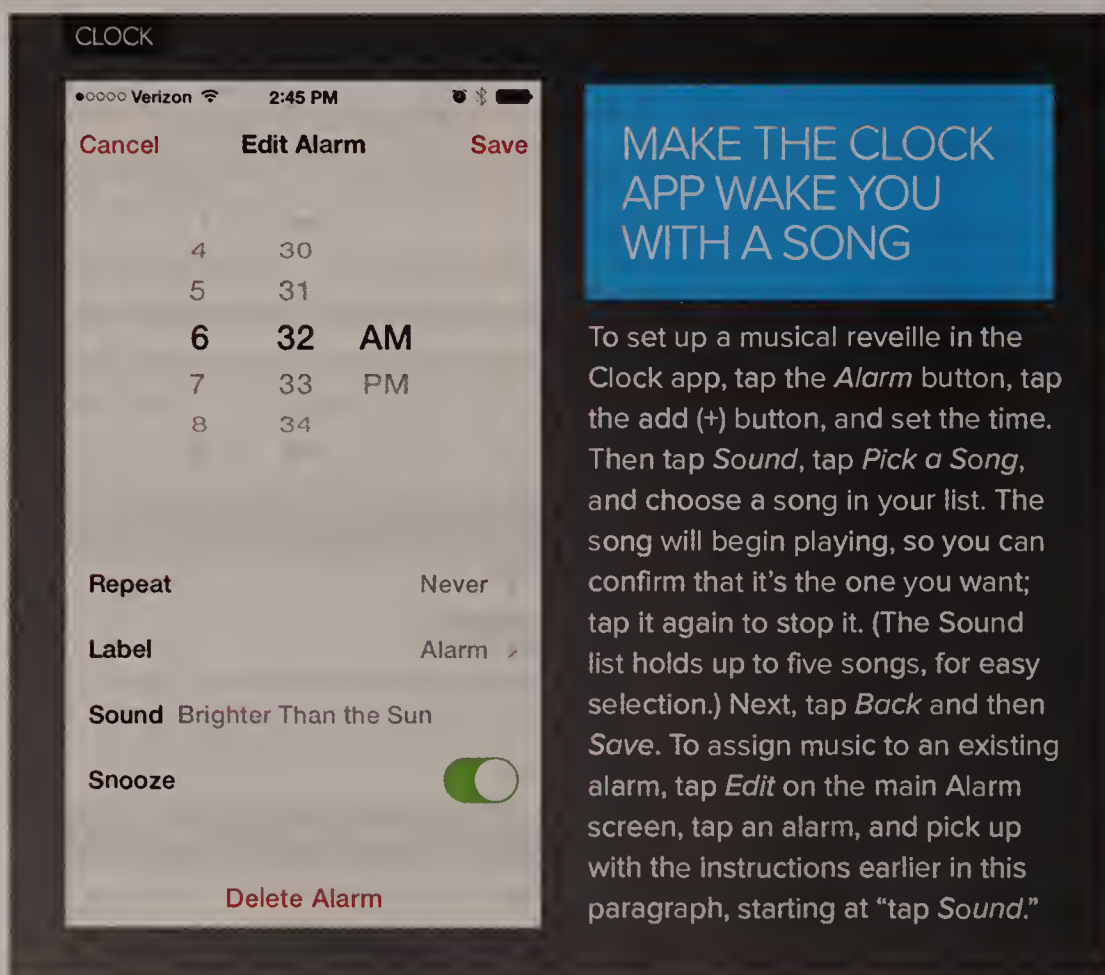
## ADD FAVORITES

For quick access to the people you call most often, add them to your favorites (tap the *Favorites* icon in the Phone app's toolbar to access this feature). You can make a call to anyone on that list simply by tapping the appropriate name.

To add a person to your favorites, tap the plus (+) button in the top-right corner of the Favorites screen, and select or search for the contact you want. If that contact's entry has only one phone number, the Phone app will ask you whether the favorite connection should be a standard voice call, a FaceTime Audio call, or a video FaceTime call. If the contact's entry includes multiple numbers, you'll jump to the contact card; just tap the number that you want to assign to your favorites.

You can add favorites from anyplace where you can view a contact card. Scroll to the bottom of the card, choose *Add to Favorites*, and select the number and/or type of call that you want to add.

If you may need to reach someone in multiple ways—via both a cell number and a work number, say—add each number to Favorites separately. Next to the person's name, the Phone app will put the label attached to that number or calling method. To rearrange the Favorites screen, tap the *Edit* button in the upper-left corner and drag entries to their new destinations; while you're in Edit mode, you can also remove entries from Favorites by tapping the red minus icon that appears to the left of each item and then tapping the *Delete* button that appears on the right.



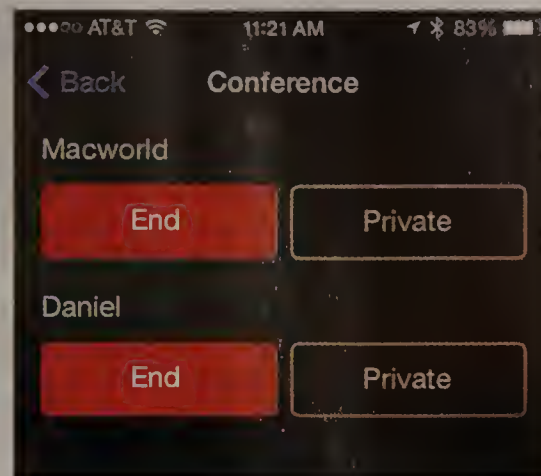
To set up a musical reveille in the Clock app, tap the *Alarm* button, tap the add (+) button, and set the time. Then tap *Sound*, tap *Pick a Song*, and choose a song in your list. The song will begin playing, so you can confirm that it's the one you want; tap it again to stop it. (The Sound list holds up to five songs, for easy selection.) Next, tap *Back* and then *Save*. To assign music to an existing alarm, tap *Edit* on the main Alarm screen, tap an alarm, and pick up with the instructions earlier in this paragraph, starting at "tap *Sound*."

## FACETIME AUDIO

If you don't have a phone number for a contact, you may be able to call that person by using FaceTime Audio, which routes audio over the data portion of your cell network (à la Skype) instead of over the phone portion. Such usage will come out of your

data plan, rather than counting against your overall voice minutes.

In the Contacts pane of the Phone app (or in the Contacts app itself), select a contact and tap the phone icon next to the FaceTime entry. During a FaceTime Audio call, just as during a normal phone call, you can tap *Mute* or *Speaker*, and you can switch to a video call by tapping the *FaceTime* button. To access your Contacts list, tap the *Contacts* button.



**OUT OF CONFERENCE** Tap the 'Private' button to enter into a private conversation during a conference call.

## AUTOMATE CALL CODES

In many instances, joining a conference call entails dialing hard-to-remember extensions or conference room codes. To simplify the process, go to the Keypad section of the Phone app and enter the phone number you dial. When you get to the end of the regular number, tap and hold the pound key until it turns into a semicolon. Enter the passcode or extension, and add the whole shebang to a new or existing contact record. The next time you dial that contact or number, you'll see a small button in the bottom left that reads *Dial with the code you entered*; tap that to have Phone enter the code on the keypad automatically.

### PHOTOS

## SAVE BURST MODE IMAGES

The iPhone 5s's Burst Mode can help you capture fast-moving action, but you don't want to clog your device's storage space with duplicate images. So after capturing a series of photos in Burst Mode by pressing and holding down the shutter button for a few seconds, tap *Camera Roll* to view your images.

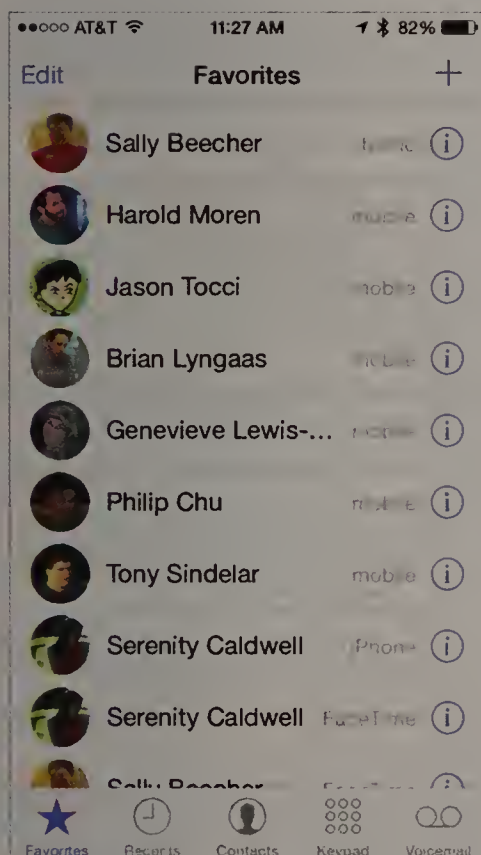
Your burst will appear as a single photo in the album, represented by the image that iOS 7 deems to be the best photo of the bunch. To go back and look through the full burst collection, tap the *Favorites* button; tap the photo (or photos) you'd like to showcase, and tap *Done*. From there you can keep the entire burst for future perusal, or delete the images you chose not to select.

## MAKE CONFERENCE CALLS

An iPhone's conference call feature lets you speak by phone to multiple people simultaneously. To use this feature, start a phone call as usual. After connecting to your first participant, tap the *Add Call* button. The Phone app will put the first participant on hold and place a second call; when that call connects, tap *Merge* to bring both participants on the line. You can add up to five parties to a call.

To merge incoming calls, tap the *Hold Call and Answer* button when a new call comes in, and then tap *Merge call*. To break off into a private conversation with one party during a conference call, tap the *i* button next to the name of the call, and then tap the *Private* button next to a specific call. Tap *Merge calls* to return to the conference.

If you want to drop a single party from the call, tap the *Conference* button and tap the *End* button next to that call.



**FAVORITES LIST** Collect contact links for the people you call most often in a favorites list.





## USE PERMANENT FILTERS

If you like having a specific filter on the images you capture via iPhone or iPad, you can set Square or Photo mode to

launch by default with the Image manipulation of your choice already in place.

To set the filter, just tap the *Filter* button in the Camera app while in the mode you want. Switch to another mode, and you'll once again have a clean slate; but when you return to your original mode, your filter of choice will remain in place.

## ENABLE AUTOMATIC HDR

iOS 4.1 introduced the High Dynamic Range (HDR) feature, which let users take a photo of a subject with both sharp light and deep shadow and have it render as evenly lit. But HDR images took longer than non-HDR images to shoot, and users had to turn it on manually when they wanted to use it.

With iOS 7 and the iPhone 5s, you can turn on automatic HDR mode. In normal light, your iPhone shoots a regular photo. In settings with multiple light patterns,

however, your device can automatically recognize that an HDR photo might be better; if it does, it tries to capture that shot instead. (In these cases the iPhone takes two photos: an untouched one and an HDR version. Go to *Settings* → *Photos & Camera* → *Keep Normal Photo* to save both images to your Camera Roll.)

## SHARE A PHOTO STREAM

Shared Photo Streams, which debuted with iOS 6, permitted users to share groups of images with friends for liking and comments, but those friends could not add images or video of their own.

iOS 7 lets you open a Shared Photo Stream to anyone you choose. When you create a shared stream, you'll see two tabs: *Photos* and *People*. Tap the *People* section to access your stream's settings and to toggle the *Subscribers Can Post* option on or off. (You can also choose to create a public website, add or delete friends to your stream, and show notifications for the stream.)

### SAFARI

## SET THE FAVORITES SCREEN

Safari in iOS 7 has a Favorites screen with the URLs and folders in the Favorites category of your Bookmarks list.

The Favorites screen appears when you don't have any open pages or tabs, when you tap the plus (+) button to add a new tab on an iPad, or when you tap the *Pages* icon followed by the plus button on

an iPhone or iPod touch. To add a site to your Favorites screen, go to that site, tap the *Share* button, and then tap *Bookmark*. Make sure that *Favorites* is selected next to Location, and tap *Save*. To edit, move, or rearrange favorites, tap the *Bookmarks* icon in the toolbar followed by the *Bookmarks* tab, tap *Favorites*, and then tap *Edit*. After making changes, tap *Done*.

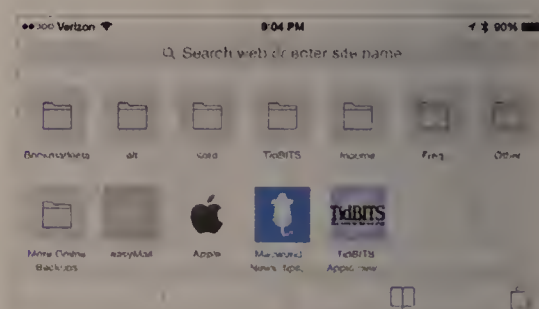
## ENTER PRIVATE MODE

As you browse the Web, Safari keeps track of the sites you visit, the searches you perform, and the contents of some forms you fill in. Private mode lets you hide your browsing history from anyone who has access to your iOS device. It also temporarily prevents Safari from storing cookies (which likewise provide evidence as to the sites you've visited).

To enable Private mode on an iPhone or iPod touch, tap the *Pages* button at the bottom of the screen; to do so on an iPad, tap the plus (+) button to add a new tab. Then tap *Private* at the bottom of the screen. If any nonprivate pages are already open, Safari asks if you want



**SAVING BURST SHOTS** Tap a collection of burst shots in the iPhone 5s's Camera Roll, and then select your favorite individual shots.





to close them first. While in Private mode, Safari takes on a gray background. To turn off Private mode, follow the same steps you used to turn it on. Note that Private mode doesn't prevent websites from collecting data about you, including your IP address (which can reveal your physical location).

## USE TABS

On an iPad, Safari for iOS 7 lets you open multiple tabs at the same time, in much the same way as Safari in OS X does. To create a new tab, tap the plus (+) button. You can switch to a different tab by tapping it, and you can drag tabs to rearrange them. On an iPhone or iPod touch, you can have multiple pages open at once, but they won't appear as tabs; to switch to a different page, tap the *Pages* button in the lower-right corner.

If you use Safari on multiple Macs that run OS X 10.9 Mavericks or later, or on iOS 7 devices, and you are signed in to iCloud on each device with the Safari category enabled, you can see which tabs (or pages) the other devices have open. On an iPad, tap the cloud icon in the toolbar; on an iPhone or iPod touch, tap the *Pages* button in the lower-right corner and swipe upward to show the open tabs and pages on other devices.

## OPEN BACKGROUND LINKS

To open a new webpage on an iPad without leaving the one you're on, touch and hold the link until a pop-over control appears; then tap *Open in New Tab*. The new page or tab will open in the background without affecting the current page or view. On an iPhone or iPod touch, the analogous command is 'Open

in New Page'—but tapping it jumps you to the new page. However, Alexander Clauss's \$2 iCab Mobile ([go.macworld.com/icabmobile](http://go.macworld.com/icabmobile)) or the free Google Chrome ([go.macworld.com/chromeapp](http://go.macworld.com/chromeapp)) on an iPhone or iPod touch offers the open-in-background feature.

## VIEW PASSWORDS AND CREDIT CARD INFO

If you configure Safari to save entered passwords and credit card information (by going to *Settings* → *Safari* → *Passwords & AutoFill*, and confirming that 'Names and Passwords' and 'Credit Cards' are turned on), Safari will record your credentials as you browse. (If you use iCloud Keychain [[go.macworld.com/icloudkey](http://go.macworld.com/icloudkey)] to sync this information across devices, anything you store in Safari on one device will be available on your other devices as well.)

Usually you'll want to let Safari fill in this information automatically. But if you need to view stored passwords and credit card details, return to *Settings* → *Safari* → *Passwords & AutoFill* and tap either *Saved Passwords* or *Saved Credit Cards*. Tap an item and enter your passcode if prompted to do so, and Safari will display the details. You can edit your credit card details by tapping the *Edit* button. However, though an *Edit* button appears in the Passwords list (enabling you to delete entries), you can't edit individual passwords in the Settings app. (You can edit them in the Keychain Access utility on a Mac, if you use iCloud Keychain to sync them.)



### REMINDERS

## CREATE A LOCATION-BASED REMINDER

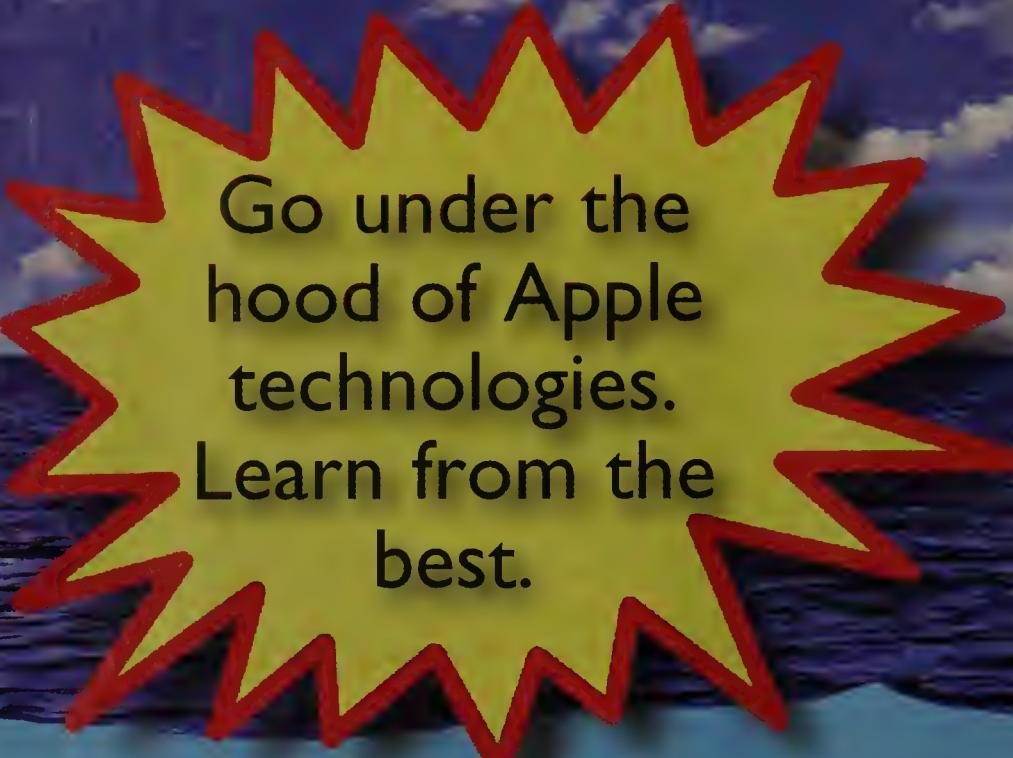
In the Reminders app, tap the information (i) button next to an item, slide the switch for *Remind Me at a Location*, and tap the *Location* field.

On the following screen you can search for an address or select a prefilled location option.

Your selected location will appear on a small map, beneath a set of buttons for specifying whether to send the reminder when you arrive at the location or when you leave it. Drag the handle on the perimeter of the circle around your location to indicate how near you should be when the reminder goes off. Return to the Details screen and tap *Done*. The location will appear in small text below the reminder item.

CONTRIBUTORS TO THIS ARTICLE INCLUDE SERENITY CALDWELL, AN ASSOCIATE EDITOR AT MACWORLD; JOE KISSELL, A SENIOR CONTRIBUTOR TO MACWORLD, A SENIOR EDITOR OF TIDBITS, AND AUTHOR OF NUMEROUS EBOOKS ABOUT MAC AND IOS TOPICS; KIRK McELHEARN, A SENIOR CONTRIBUTOR TO MACWORLD WHO WRITES ABOUT MACS AND MORE AT MCELHEARN.COM; DAN MOREN, A SENIOR EDITOR AT MACWORLD; AND SHARON ZARDETTO, A JOURNALIST WHO STARTED WRITING ABOUT THE MAC IN 1984 AND HASN'T YET TIRED OF TALKING ABOUT APPLE PRODUCTS.





Go under the  
hood of Apple  
technologies.  
Learn from the  
best.

Crack the secret  
successful techs already know.  
At MacTech events, there's a  
lot more than meets the eye.

## **MACTECH** BOOTCAMP III

One day seminars, specifically designed for  
anyone that supports those using Apple technologies.  
<http://www.mactech.com/bootcamp/macworld>

Held in 2014 in cities throughout the U.S.  
Atlanta, Austin, Boston, Chicago, Denver,  
San Francisco, Seattle, Toronto, and Washington D.C.





The image is a conceptual diagram of a conference, represented as an iceberg. The visible tip of the iceberg, above the water line, is divided into three sections: 'Vendors' on the left, 'Great Sessions' in the center, and 'Peer Networking' on the right. The much larger, submerged part of the iceberg is also divided into several sections, each containing text about various topics. The water is a dark blue, and the sky above is a lighter blue with some clouds.

Vendors

Great  
Sessions

Peer  
Networking

New tricks  
to handle  
Apple IDs

New resources  
to ask  
questions

Command line  
tricks you never  
knew

What you  
need to know  
about security

A way to  
outsource items you  
don't want to do

Office for Mac  
troubleshooting  
skills

Recommendations  
from peers on  
vendors

Best backup and  
storage options

Best practices in  
deployment

Finally, that real  
contact you've  
been looking for

Ideas for new  
offerings

WiFi  
troubleshooting  
and  
installations

Certificates, Profiles  
and more...

Constant stream  
throughout the event of  
knowledge, tricks, tips  
and methods





# Customer Research

## Inception

Suspendisse lobortis, quam ac euismod sodales, diam turpis luctus nunc, vel porta mauris enim quis ipsum.

## Growth

Maecenas in quam. Mauris libero massa, fringilla nec, dictum eget, tempus a, odio. Aliquam lorem.

## Present Day

In lacina, enim sed luctus ultricies, velit odio tempor mauris, in aliquet nunc, sem tempor nisi. Vestibulum sodales.

Let's take a look at what the field experts are saying about us.

Productivity and development made easy with feedback from users like you.

Vestibulum leo dolor, dapibus vitae, tempus et, adipiscing id, metus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. In malesuada, lectus id fringilla luctus, lectus nulla malesuada libero, tincidunt dignissim nisi orci vel lectus. Nam scelerisque neque a elit. Aliquam nec diam ut magna condimentum bibendum.

Mauris diam dolor, suscipit sit amet, porttitor vehicula, aliquam id, leo. Vivamus congue, felis quis porttitor adipiscing turpis posuere risus, et gravida eget mi. Sed lacus nunc, pulvinar lacinia sit amet, rhoncus risus eu eros cursus, auctor erat tellus, auctor dignissim et.

Etiam i  
Inter





REVIEW

# OFFICE for iPad

WORD, EXCEL, AND POWERPOINT FINALLY  
COME TO APPLE'S TABLET, AND THE APPS  
RANGE FROM GOOD TO GREAT



Almost as soon as the iPad appeared in 2010, people wondered when Microsoft Office for the tablet would arrive. The theory was that once the Office suite was available, the iPad would finally become a real business-computing device.

Well, the iPad has long since become just that, even without Office. So when Microsoft finally released Excel, Word, and PowerPoint for iPad, that move didn't rock the world.

That's too bad, because the wait was well worth it. With Excel and Word particularly, and even PowerPoint to some extent, the migration to the iPad has been a huge success. These aren't just Mac apps ported to the tablet—they're tablet apps through and through.



# EXCEL

## for iPad THE BEST SPREADSHEET APP FOR THE IPAD

BY ROB GRIFFITHS

**A**lthough you can find any number of spreadsheet apps for the iPad, the market changed dramatically the day that Microsoft released the full Office suite for iPad, including a solid version of Excel.

Microsoft has done an excellent job of transferring the power and capabilities of Excel for OS X to Excel for iPad. The program loads quickly, and it deftly handles the transition from keyboard-and-mouse input to a full touch interface.

### THE INTERFACE

Excel for iPad's interface is surprisingly well thought out. The window features six small buttons along the top left and right of the screen, plus five tabs in the center.

The toolbar is small and tidy, unlike the one in the desktop version of Excel, which I often find too big and too cluttered to navigate easily. Each tab (Home, Insert, Formulas, Review, and View) contains just one row of text and icons. The default view opens to the Home tab, which contains often-used formatting options,

such as font face, color, and style; font fill and borders; text alignment; and cell formatting and style drop-down menus.

The other tabs are relatively self-explanatory, except perhaps Review, which you use to scan comments on worksheet cells. You can't actually create cell notes in Excel for iPad (though you can delete them), so you'll use the Review tab only to browse through existing comments.

When you're in a worksheet, touch actions function as you'd expect them to—a two-finger drag

#### Excel for iPad

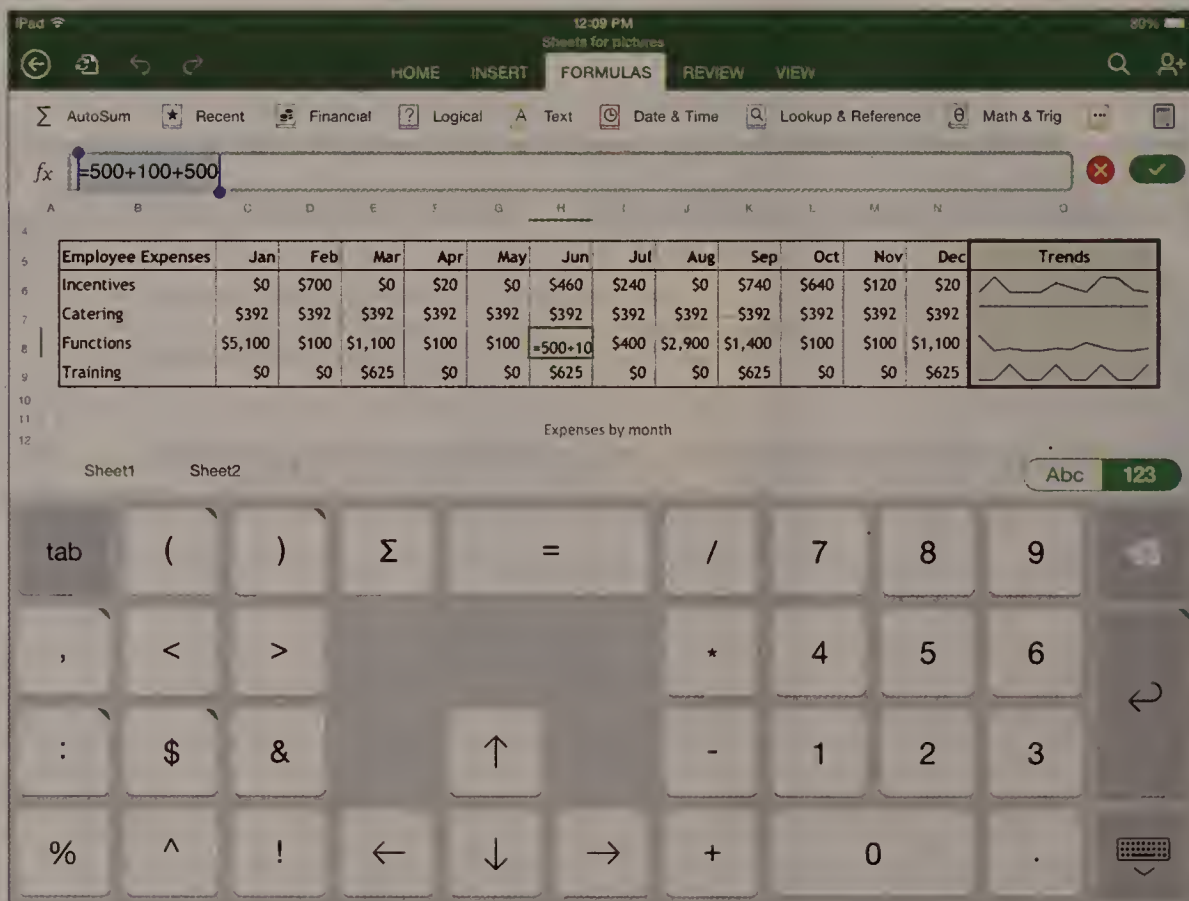


##### PRICE:

Viewing files, free; editing and creating files, \$100 per year or \$10 per month for an Office 365 Home subscription

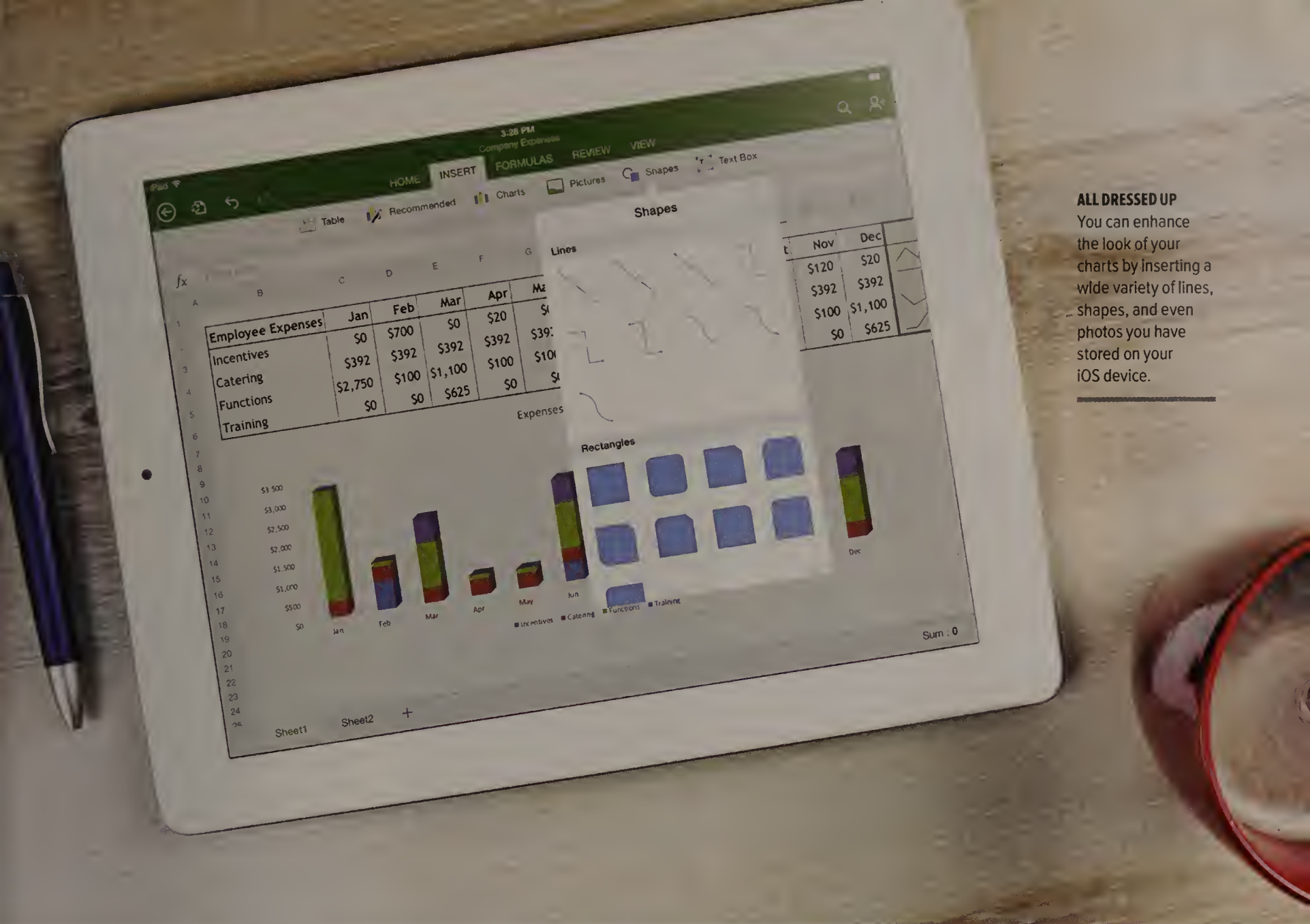
##### COMPANY:

Apple  
apple.com



**STRENGTH IN NUMBERS** The numeric keyboard, which combines mathematical symbols and numbers on one panel, greatly speeds the entry of formulas.





#### ALL DRESSED UP

You can enhance the look of your charts by inserting a wide variety of lines, shapes, and even photos you have stored on your iOS device.

scrolls the worksheet, and pinch gestures zoom and unzoom it. A single tap selects a cell, while a double-tap opens the cell for data entry (and displays the keyboard). You can add cell references to formulas by tapping (and tap-dragging) other cells as you're working on the formula. When entering data in cells, you can also use the numeric keyboard (see "Strength in Numbers"). Excel for iPad supports external keyboards as well.

Once you've selected (highlighted) a cell, you can tap and drag on one of its corners to expand the selection to a range of cells; you can then move that range (or just one cell, if that's all you've selected) with a tap-and-hold operation. You can also bring up a contextual menu by tapping and holding on a selected cell; you'll see a bar in which you can cut, copy, clear, fill, or wrap the cell. If you choose the

fill option, small arrows pop up on the cell's right and bottom sides; you can drag those arrows to fill adjacent cells, just as you would in the desktop version of Excel.

## THE FEATURES

Microsoft did an incredible job of migrating a lot of Excel's power to the iPad version of the app, which has more than 400 formulas. If that's not all of the desktop version's formulas, it's the vast majority of them.

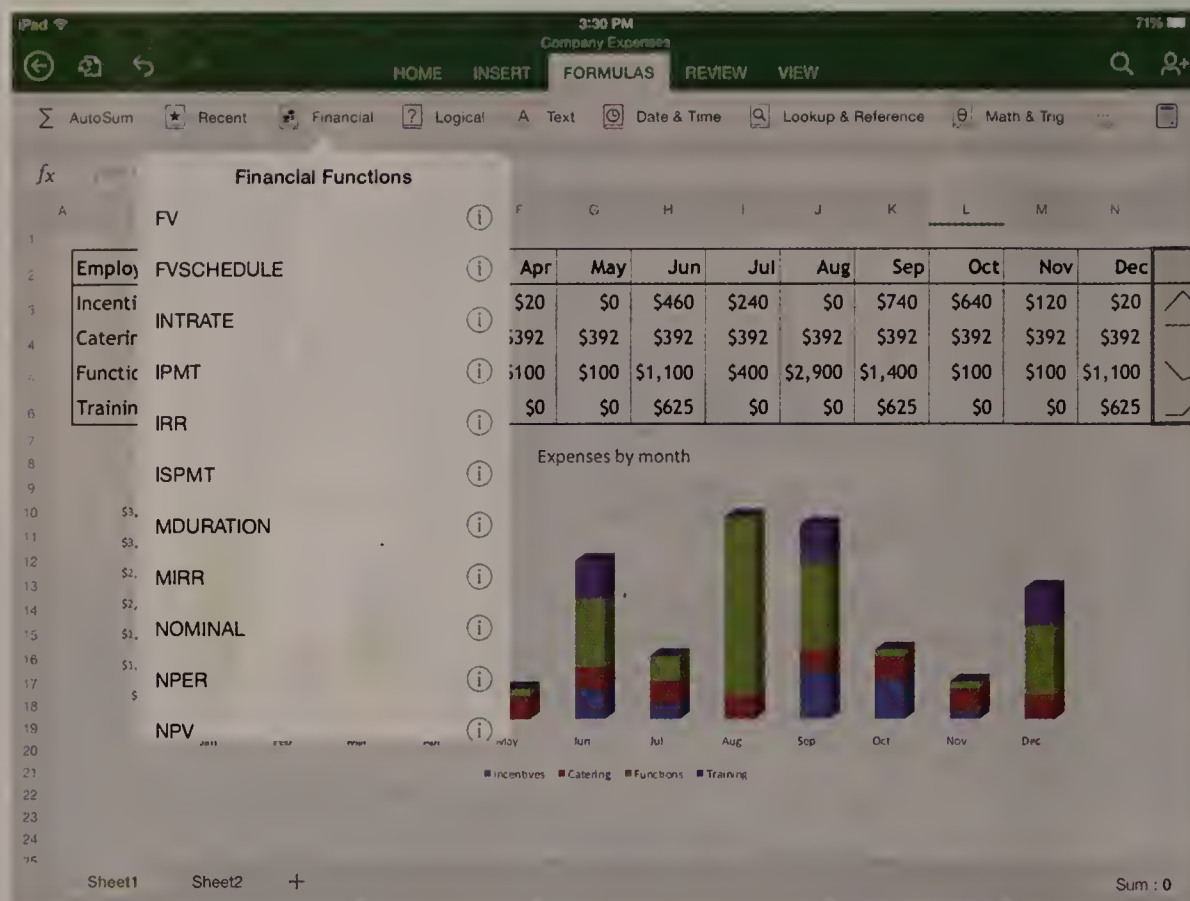
Most of the chart types have also migrated. To create a chart, you just select the data, tap the *Insert* tab on the ribbon, choose a chart type, and then tap-drag to select a region for the chart.

You can also choose from a large assortment of shapes, add text boxes, and even insert images. However, the image browser is restricted to photos stored on the iOS device; you can't access media files in your Microsoft OneDrive cloud storage, for example. The thorough help system includes a comparison table that shows what you can do in each version of Excel (iOS, OS X, and Windows), along with a touch guide that explains how to interact with your data.

Excel for iPad has most of the desktop version's features: functions, fonts, cell borders, cell merging, table styling, the ability to hide and shuffle worksheets in a workbook, and so on. Some of the

**MICROSOFT DID AN INCREDIBLE JOB OF MIGRATING A LOT OF EXCEL'S POWER TO THE IPAD VERSION OF THE APP, WHICH HAS MORE THAN 400 FORMULAS.**





**NICELY PACKAGED**  
Excel for iPad's interface takes up minimal screen room, and the toolbar is easy to work with even if you have large, bumbling fingers.

features are less robust, of course—the iPad app has fewer cell border styles—but there's enough here to meet the needs of even heavy-duty spreadsheet users.

As for performance, I was impressed with the app's responsiveness, even when I was working on pretty large worksheets. Scrolling was smooth, and I didn't notice any slowdowns or other issues.

### A FEW LIMITATIONS

As good as the tablet version of Excel is, it's missing a few of the desktop version's features. As mentioned earlier, you can't create comments; you also can't name cells or ranges (though you can work with existing names), or create conditional formatting rules. Any included array formulas work, but you can't enter new ones. And while you can see existing sparklines, you can't create new ones (a sparkline is a full graph contained in one cell). Finally, references in formulas to cells on external worksheets won't update.

One last limitation is that you can use Excel for iPad on only one

workbook at a time. If you're wrangling two worksheets, and they're in different workbooks, you'll have to close one workbook to focus on the other.

By default, Excel for iPad constantly saves your work—so if you're dealing with a mission-critical workbook, you'll want to duplicate it before you begin, in case you make a serious mistake. (You can also disable auto-save via an option in the same menu you use to duplicate workbooks.)

**SAVING FILES ON ONEDRIVE KEEPS THEM IN SYNC ACROSS ALL OF YOUR DEVICES AND AVAILABLE WHEREVER YOU GO.**

You can save files to the iPad (and transfer them to and from it via iTunes' Apps section), or you can save them to your OneDrive cloud disk. A nicely laid-out file organizer lets you browse through files on both the iPad and OneDrive, although no preview is available.

Excel doesn't support Google

Drive or Dropbox, which isn't surprising—you won't find support for OneDrive or Dropbox in Google Sheets or in Apple's Numbers. The lack of support for other cloud services is troubling but not crippling, as Dropbox's Open In menu supports Excel.

Happily, Microsoft has since addressed one other limitation: An update added the ability to print from the iPad version of Office.

### THE ELEPHANT IN THE OFFICE

The big sticking point with Office for the iPad is the Office 365 subscription model, which includes Excel for iPad. While you can use the app for free as a spreadsheet viewer, to actually edit workbooks you'll need an Office 365 subscription, which costs \$100 per year, or \$10 per month, for the Home edition. With that, you get 20GB of OneDrive cloud storage and the ability to use all of the Office apps on up to five computers (OS X and Windows) and five tablets. (See "Office 365: To Subscribe or Not to Subscribe" on the opposite page.)

### BOTTOM LINE

Putting aside the issue of the Office 365 subscription, Excel for iPad is the best spreadsheet app

I've seen on Apple's tablet. The touch interface is well thought out, and support for the full set of desktop functions means you can handle complicated workbooks while you're away from your computer. Saving files on OneDrive keeps them in sync across all your devices and available wherever you go.



# OFFICE 365 TO SUBSCRIBE OR NOT TO SUBSCRIBE

BY ROB GRIFFITHS

**T**here's been an uproar over the pricing model for Microsoft's Office for iPad. The apps are free to download, and you can use them to view Word, Excel, and PowerPoint files. However, you can't use the apps to edit existing files or to create new files without buying a subscription to Office 365, Microsoft's online Office-everywhere service. The Home edition (\$100 per year or \$10 per month) is the appropriate choice for typical home users.

So should you pay that price to create and edit documents with the iPad Office apps? The answer depends on how you use the apps on your computer(s) and/or tablets, and how many computers your household has.

## I NEED THE FULL OFFICE SUITE ON iOS

If you need full access to the Office suite on your iOS device, obviously you'll be ponying up the money. (Note that Amazon is currently selling a one-year subscription for considerably less [[go.macworld.com/amazonoffice](http://go.macworld.com/amazonoffice)].)

Yes, Apple offers alternatives via its iWork for iOS suite (free with new iOS devices, \$10 otherwise). But for users who need the highest level of Excel, PowerPoint, and/or Word feature compatibility, the iWork apps just don't cut it.

## I ONLY NEED AN OFFICE-STYLE SUITE ON iOS

If you don't need 100 percent compatibility with Microsoft Office, and you rarely need to create or edit Office-type documents on



**CONTROVERSIAL KEYNOTE** Microsoft CEO Satya Nadella at the Office for iPad launch, where he announced that an Office 365 subscription would be required for working in the new tablet apps.

your iOS device, you have plenty of good alternatives to Microsoft's subscription plan. The aforementioned iWork for iOS apps may be all you need, given that they can output Office-compatible file formats when required.

## I USE OFFICE AT HOME, BUT NOT ON iOS DEVICES

Even if you have no interest in using Office on iOS, Office 365 may still be worthwhile, depending on how many computers you have and how often you upgrade Office.

If you're just one person, with one Mac, you don't need Office 365, even if you upgrade each time there's a major release (which happens roughly every three years).

Assuming a new release appears in 2014, you could expect to use it for at least the next three years. And assuming it has the same \$140 price as Office 2011 for Mac, then clearly that option would be

cheaper than the \$300 you'd pay for an Office 365 subscription over the same three years.

But say you have three Macs at home. Since Microsoft sells Office with only single-machine licenses, your up-front cost is now \$420. Subscribing seems like the obvious choice, right?

It does, but you must still answer one more question: Do you intend to keep subscribing to Office? Subscribing to software is like leasing a car: You don't own anything at the end of the subscription term. Let the subscription lapse, and you won't be able to edit your Office documents. At that point you'll need to buy Office, which will obviously increase your costs.

So if you think you are going to stop subscribing at some point, it's best to do it when a major release comes out. That way, you'll get three or more years' use out of your investment.

## In short:

- Subscribe to Office 365 if you need Office on your iOS devices, as it's the only way to get it.
- Do not subscribe if you have no need for Office on iOS and you have only one Mac.
- Consider subscribing if you have multiple Macs, even if you don't need Office on iOS, depending on how often you upgrade Office and how likely you are to re-up.



# WORD

## for iPad

THE NEW STANDARD-BEARER FOR MICROSOFT'S WORD PROCESSOR

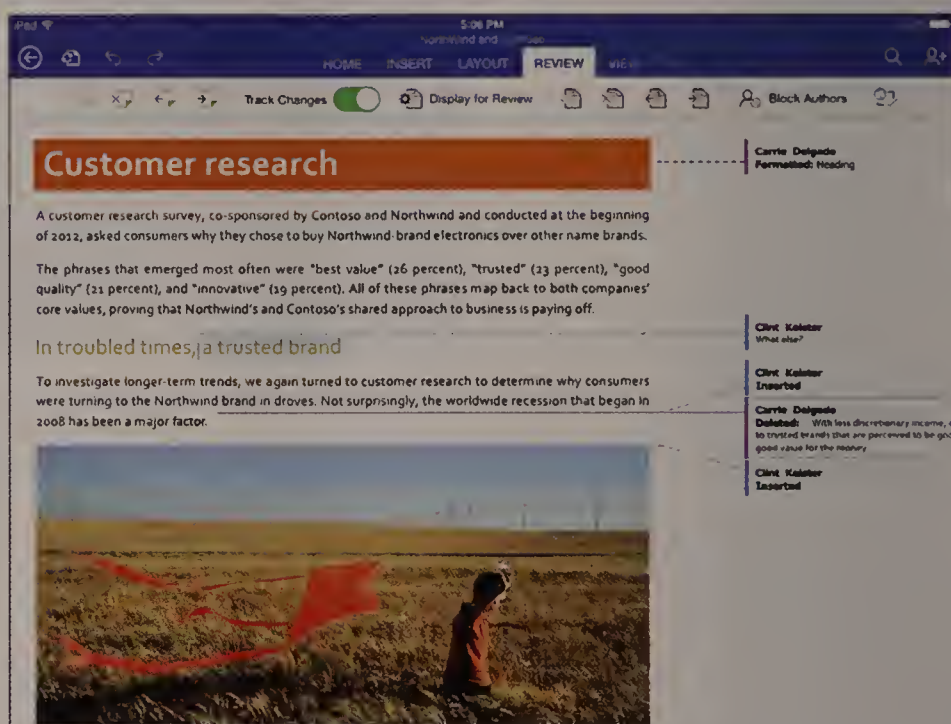
BY JEFFERY BATTERSBY

**S**leek, streamlined, and well organized, Word for iPad offers everything that's great about the desktop app, without any of the clutter.

That said, Word for iPad is different from any Office application you've used before. While you can download the app for free, it requires a subscription to Office 365 (\$10 per month, or \$100 per year) if you want to do more than just view Word documents. (See "Office 365: To Subscribe or Not to Subscribe?" on page 65.)

Once you've set up your subscription, Word opens to a template browser, where you can either create a fresh document from one of 15 templates, or open existing documents stored in your Microsoft OneDrive cloud storage service or in any other location supported by Microsoft's SharePoint collaboration software. Word for iPad's templates are similar to the desktop app's, but the selection is not nearly as rich as what you'll find in Word for Mac. From this window you can also manage your Office 365 account and add new OneDrive or SharePoint locations.

You have to download documents stored on your OneDrive to your iPad before you can work on them; as you work, they sync dynamically to your OneDrive at



**A CLEAR VIEW** Microsoft Word for iPad is feature-rich and powerful, offering the best capabilities of the desktop application with nothing extraneous.

intervals, when you are not actively typing in a document. Download times vary depending on the document size and the speed of your Internet connection, but I found the process took just a few seconds. Documents you've opened from your OneDrive are cached locally on your iPad, and you can open them even if you don't have Internet access. You can also save documents directly on the iPad and then later move them to your OneDrive.

### ROBUST TOOLS

Editing documents in Word on the iPad is a pleasure. Although it has

an "essentials only" look and feel, it's no stripped-down version of the desktop app. It doesn't offer everything Word for Mac does—it has fewer templates and no scripting tools—but this is not Word on the iPhone, which was a big disappointment. The editing tools are robust and capable—you should be able to do everything you need to do and more.

### THE INTERFACE

The document editor sports a single simplified toolbar with five tabs at the top: Home, Insert, Layout, Review, and View. Additional tabs

#### Word for iPad



**PRICE:** Viewing files, free; editing and creating files, \$100 per year or \$10 per month for an Office 365 Home subscription

**COMPANY:** Apple  
apple.com



appear depending on the types of elements you're working with: If, say, you're working in a table, a tab appears with tools for adding, removing, and formatting cells. Tapping a tab once reveals its tools; tapping it again hides them, giving you extra editing room.

Word for iPad offers a complete set of text-editing tools, including nearly 120 fonts and the usual tools for formatting those fonts. You'll also find paragraph-alignment, list, spacing, and indentation tools, as well as a Style menu for quickly changing paragraph styles. Unfortunately, you can't create new styles based on formatting changes you make in your document.

You can share documents you create by tapping a Share button. Because these documents are stored in your OneDrive, other users can edit and update them simultaneously, and you can track

## BECAUSE DOCUMENTS ARE STORED IN YOUR ONEDRIVE, OTHER USERS CAN EDIT AND UPDATE THEM SIMULTANEOUSLY.

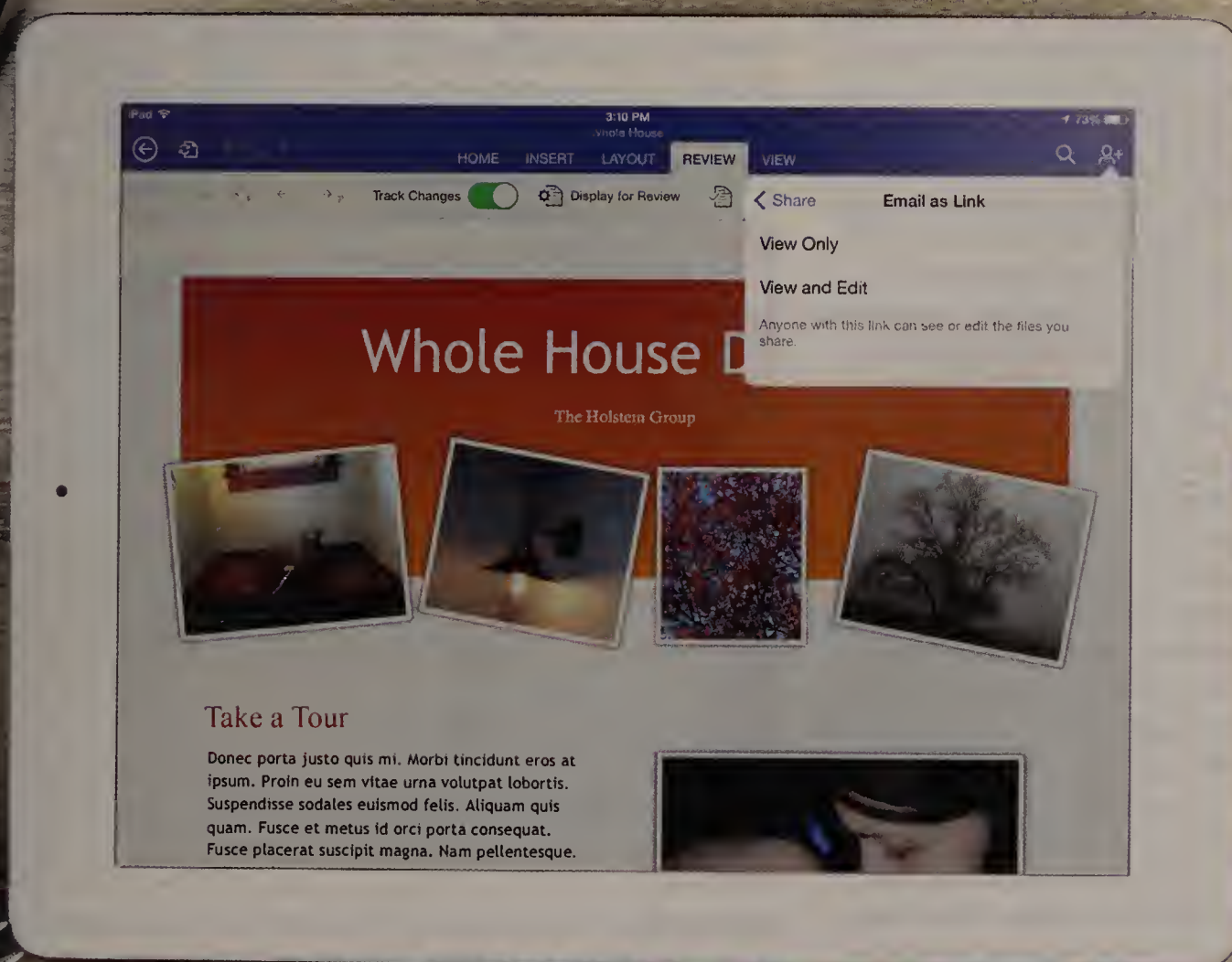
the changes they've made on other devices. In my testing, I found that simultaneous editing worked well enough, but because you have to refresh documents manually to see the updates others are making while you're editing a document, both you and your collaborators may find after a refresh that your changes appear in a slightly different location than you were expecting. That said, I didn't experience any loss of data.

Word for iPad has some minor limitations, particularly if you created the original document using the desktop Word app. While the app does a great job of handling document formatting, in some cases

the fonts you've used on your Mac may not be available on the iPad. I also found that when I was using templates, objects were not always what I expected them to be: I spent five minutes trying to resize what I thought was a colored text box in a document when it was actually a table with a colored cell. Only when I saw the Table tab appear in the toolbar did I realize my error.

### BOTTOM LINE

The Office 365 subscription required to use Word for iPad may deter some users, but this is an impressive app. It's streamlined, fast, and beautiful—exactly what I'd like to see on my Mac.



**COLLABORATIVE EDITING** You can collaborate with others on a Word document that's stored on your OneDrive.



# POWERPOINT

## for iPad

CLOSE BUT  
NOT QUITE THERE

BY JEFFERY BATTERSBY

**P**owerPoint for iPad lets you open, edit, create, and present native PowerPoint files on your iPad—no file conversion required. This is a boon for anyone who often uses PowerPoint on a Mac or PC but prefers the iPad's portability. Compared to PowerPoint for OS X 2011 (★★★★½; [go.macworld.com/powerpoint2011](http://go.macworld.com/powerpoint2011)) and Apple's Keynote 2.0 for iOS (★★★★; [go.macworld.com/keynote](http://go.macworld.com/keynote)), however, PowerPoint for iPad has offers a lackluster set of features.

### OFFICE 365

As with the other Office for iPad apps, you must have an Office 365 subscription (\$10 per month, \$100 per year for the Home edition) if you want to create or edit presentations on your iPad. (For more on Office 365, turn to page 65.) Each subscription includes access to the OneDrive cloud storage service, which you'll need to transfer files to and from your iPad. (You can also add a location supported by Microsoft's SharePoint collaboration software. There's no support for other cloud storage services, such as Dropbox.) Alternatively, if another app contains a PowerPoint file, you can use the Open In command to send it to PowerPoint.

PowerPoint can read .ppt files, but it converts them to the newer .pptx format before you can edit

them. All the PowerPoint files I imported from my Mac opened without incident.

Whatever else you might say about PowerPoint for iPad, Microsoft got the touch interface right. The controls are where you expect them to be, and every operation—from applying boldface to rotating a graphic—is intuitive.

When creating a new slideshow, you can choose from 20 themes in widescreen or standard aspect ratios. Oddly, there is no overlap between the themes in the iPad and Mac versions—and no way to create new themes. The iPad version also lacks templates.

### STYLES AND LAYERS

PowerPoint for iPad includes a sufficient array of text-editing controls—you can adjust font, size, style, color, alignment, and indentation; apply bulleted or numbered lists in a variety of styles; and use any of 20 predefined text styles. You can also add and format tables, add a number of shapes and lines, and insert graphics from elsewhere on your iPad. You can also apply picture styles, shadows, and reflections to imported images, and resize or rotate the images, though you can't crop them. PowerPoint for iPad

#### PowerPoint for iPad



**PRICE:**  
Viewing files, free; editing and creating files, \$100 per year or \$10 per month for an Office 365 Home subscription

**COMPANY:**  
Apple  
[apple.com](http://apple.com)



**HEAD IN THE CLOUDS** You can use OneDrive or a SharePoint folder to store documents in the cloud.



# FREE GIFT!



Get **Macworld's**  
free downloadable  
Power Guides Collection  
in .ePub, .MOBI and .PDF files  
**FREE**  
WHEN YOU SUBSCRIBE!

NEWSSTAND PRICE	YOU SAVE	YOU PAY
<del>\$83.88</del>	\$61.91	<b>\$21.97</b>

- ☐ **YES!** Please enter my subscription (12 monthly issues) to **Macworld** at the low rate of only \$21.97. I will **SAVE 74% OFF** the annual newsstand rate and receive **Macworld's 5 Power Guides FREE** with my order.
- ☐ 2 years (24 issues) for \$34.97 – **SAVE 79% off the cover price!**

Name \_\_\_\_\_ (please print)

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Email (Required to receive instructions to download Power Guides and iPad access.) \_\_\_\_\_

**Includes access to Macworld Digital Magazine Enhanced iPad Edition**

Choose One: ☐ Payment Enclosed ☐ Bill me later

## Macworld

Savings based on annual U.S. newsstand rate of \$83.88. Offer valid in U.S. only. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$10 per year for Canada; and \$20 per year for foreign air delivery. Canadian GST or HST included where applicable. For faster service and digital options, go to: [www.macworld.com/subscribe](http://www.macworld.com/subscribe)

J407NB



For faster service and digital options,  
go to: [www.macworld.com/subscribe](http://www.macworld.com/subscribe)



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST-CLASS MAIL PERMIT NO 112 BOONE IA

POSTAGE WILL BE PAID BY ADDRESSEE

**Macworld**

**SUBSCRIPTION DEPARTMENT**

PO BOX 37778

BOONE IA 50037-2778





**PICTURE THIS** You can choose from several predefined picture styles, which include frames and other visual elements.

doesn't include a built-in chart capability, but you can copy a chart from Excel for iPad and paste it into a slideshow.

You can adjust the front-to-back layering of each element on a slide, and apply any of 36 slide transitions, including 11 that don't appear in PowerPoint for OS X. Control over transitions is limited, however—for example, you can choose a direction for a wipe or dissolve effect, but not a duration,

graphics or audio. Any videos in a slideshow appear as static thumbnails. You can reorder slides, but there's no Outline view. And though you can see comments added in the desktop version of PowerPoint, you can't edit or delete them, or add new comments.

PowerPoint is also a bit disappointing when it comes to playing slideshows. On the plus side, you can touch and hold to summon a simulated laser pointer, as you can

screen. It's especially odd that you can add and edit speaker notes, but you can't see them during the slideshow. You also don't get an on-screen timer or a thumbnail view while presenting, even when you're using AirPlay or a video adapter connected to an external display. Keynote offers both.

Microsoft declined to comment on whether or when it might add any of these features, but the company pointed out that it has made several updates to Office 365 in the last year, and said that it's listening to customers' feedback.

## POWERPOINT FOR IPAD LACKS A PRESENTER VIEW—YOUR SLIDESHOW ALWAYS DISPLAYS FULL SCREEN.

sound effect, or delay.

Unfortunately, that's about the extent of what you can change on a slide. You can't add animations to a slideshow, nor can you edit existing animations in imported slideshows. The app doesn't support SmartArt

do in Keynote for iOS, as well as write on the screen with a pen or highlighter. There's also a black-screen button, which Keynote doesn't have. But PowerPoint for iPad lacks a presenter view—your slideshow always displays full

### BOTTOM LINE

As far as it goes, PowerPoint for iPad works well, but it just doesn't have enough features at this point. Keynote for iOS is considerably more powerful. Even so, PowerPoint 1.0 is a good starting point, and it shows considerable promise for the future. ■



## Best Mac Accounting Apps

Though Intuit's QuickBooks dominates the accounting app category overall, on the Mac it has some stiff competition—and it doesn't keep up.

BY JEFFERY BATTERSBY

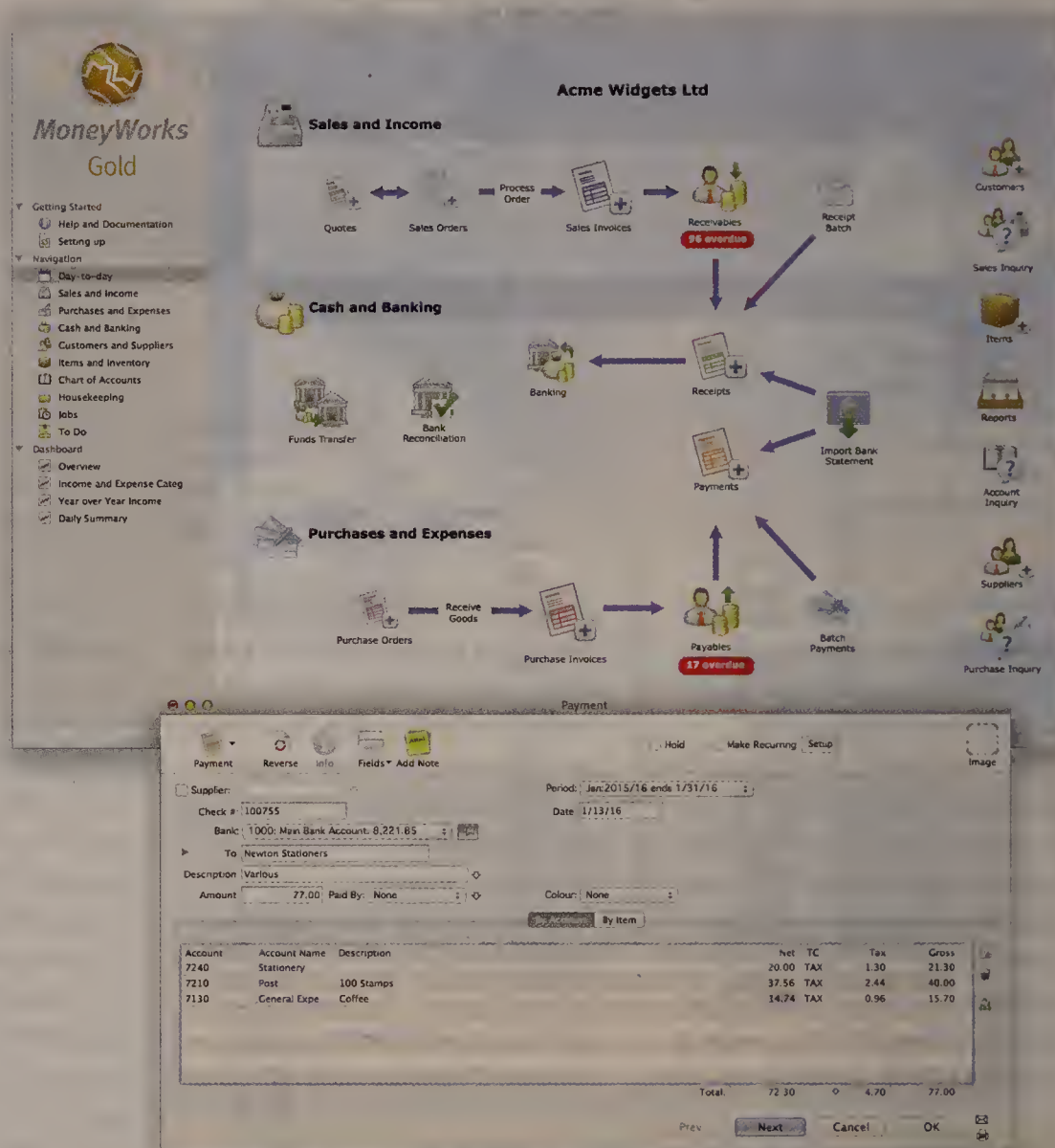
**L**ots of excellent Web-based apps are available for tracking your business's finances (see [go.macworld.com/cloudaccount](http://go.macworld.com/cloudaccount)), but if you don't like the idea of keeping your company's financial information in the cloud, a traditional Mac application is your best bet.

I looked at four apps for managing your business invoicing and finances: Cognito Software's MoneyWorks Gold, the Acclivity Group's AccountEdge Pro, Intuit's QuickBooks for Mac, and Market-circle's Billings Pro. The first three are traditional invoicing and accounting applications; Billings Pro has compelling features but requires additional software to complete the package. All of these apps offer excellent tools for managing your business finances.

### TOP CHOICE: MONEYWORKS GOLD 7

The most familiar accounting programs for the Mac are AccountEdge and QuickBooks. Although Cognito Software's MoneyWorks Gold 7 (\$499; [go.macworld.com/mwgold7](http://go.macworld.com/mwgold7)) isn't as well known, this full-featured, networkable business accounting application supports multiple users and works on both Macs and PCs.

MoneyWorks uses a flowchartlike interface resembling the ones that AccountEdge and QuickBooks for Mac rely on. Its interface consists of two parts: a large main window, which displays a flowchart that changes depending on the particular item you've selected; and a sidebar displaying navigation links to MoneyWorks' collection of financial tools, where you select items for main-window



viewing. In MoneyWorks, as in AccountEdge and QuickBooks 2014, the flowchart attempts to map a visual relationship between various business activities. This arrangement does make the applications a bit more interesting visually, but in actual practice I've rarely used the flowchart to figure out how the many aspects of a business are related.

Most of the tools you'll regularly use

**FAST PASS** MoneyWorks gives you quick access to all of your business data, as well as options for sharing your data with Mac and PC users on your network.

appear in the Navigation section under the 'Day-to-day' heading. Here you can generate quotes, sales orders, and invoices; reconcile your bank accounts; create and receive purchase order items; and review accounts payable.

Each of these tasks is also available in other areas of the application, and selecting other navigation options gives you access to a deeper set of tools and features. For example, the 'Items and Inventory' option provides tools for receiving stock on items that you have ordered, viewing a journal-style list of all the stock you have on hand, and building new stock from items in your existing inventory.

MoneyWorks includes almost a hundred types of reports, including sales tax reports for Canada and VAT reports for the United Kingdom. If none of the application's existing reports fit your specific needs, you can create custom reports. Reports are available either from the Reports menu or, when you select a specific navigation area, from the main application window. For example, by selecting 'Chart of Accounts' from the Navigation section, you can obtain links for a number of account-related reports.

Two MoneyWorks features are especially noteworthy: multiuser network capabilities and cross-platform client applications. To share your MoneyWorks file on the network, simply open *Sharing and Users* from the File menu and check the box to turn on sharing. (A Datacenter version also permits access via iOS devices and multicompany hosting.) By default, the application allows anyone on the network to have access; to restrict access, you must password-protect your data file. After doing so, you can add users and limit their access to features. Unfortunately, MoneyWorks doesn't provide a group option for managing user access to data, so you must individually manage the profile for every user who needs to have access.

#### TOP CONTENDER: **ACCOUNTEDGE PRO**

Depending on how you look at it, the Acclivity Group's AccountEdge

**If you don't like keeping company financial information in the cloud, a traditional Mac app is your best bet.**



**ENVIAIBLE INVOICES** Billings Pro offers beautiful, customizable invoice, estimate, and statement documents.

Pro (\$399 new, \$159 single-user upgrade, \$249 multiuser upgrade; [accountedge.com/pro](http://accountedge.com/pro)) is either a little stale or as reliably consistent as ever. AccountEdge's looks have changed little in the past dozen years, but it remains a very solid accounting application.

AccountEdge has long allowed users to work in a networked environment on both Macs and PCs. Like MoneyWorks, it lets you control who has access to specific parts of your company's financial data. AccountEdge offers excellent tools for securing your data without forfeiting access to

your accounting and inventory data in a multiuser, multiplatform environment.

Though the front end of AccountEdge looks quite similar to the way it did in previous versions of the program, the 2014 edition has added a few new features, including master inventory categories that let you generate dozens of subcategories without having to create distinct inventory items for each one. For example, you might decide to create a category called "Whole-Bean Coffee" and subdivide it into caffeinated and decaffeinated versions of specific roasts. The result is much easier management of your inventory.

Acclivity has also rebranded and updated its Web front end for AccountEdge, offering cloud-based features such as options for creating invoices and other transactions from a webpage.



## THE REST OF THE PACK

Intuit hasn't changed **QuickBooks for Mac 2014** (\$250; [go.macworld.com/qbmac](http://go.macworld.com/qbmac)) since we reviewed it last December (see [go.macworld.com/qb2014mac](http://go.macworld.com/qb2014mac))—which comes as no surprise, given the company's track record of updating its Apple products infrequently.

The latest version of this business accounting application simplifies the task of transferring your data to and from your accountant, but it can't handle mixed Mac and PC environments. Still, as long as you understand its limitations, QuickBooks for Mac will take good care of your business finances.

A new user interface gives QuickBooks a look and feel similar to that of Intuit's Mint.com and to the new Web interface for QuickBooks Online ([go.macworld.com/qbonline](http://go.macworld.com/qbonline)). The new look provides a great at-a-glance overview of your financial status. Though it's not everything you might want, QuickBooks for Mac 2014 does give you the essentials for your business accounting needs.

It may sound like a Montana-centric program, but Marketcircle's beautifully designed **Billings Pro 1.6.5** (free, \$5, and \$10 for various per-month, per-user plans, or \$99 per year, per user; [go.macworld.com/billingspro](http://go.macworld.com/billingspro)) combines an application with a subscription-based service you can use to create invoices and estimates, as well as to collect time-billing information via your Mac OS or iOS device. You perform and manage all of your work locally, and then sync it to a database hosted on Marketcircle's servers.

I have used the Mac and iOS versions of the original Billings application for years, and like many other people, I was quite disappointed when Marketcircle dropped the stand-alone application in favor of a client-server subscription model. But after about a month of using the new Billings Pro, I found that I liked it better than the old stand-alone version.

Billings Pro is not an accounting application, but you can export Billings Pro data directly into QuickBooks for Mac or MoneyWorks 6. (Marketcircle says that support for MoneyWorks 7 is forthcoming.) Aside from the attractive-



**WALLED-GARDEN ACCOUNTING** The Mac-only QuickBooks for Mac 2014 has excellent small-business accounting tools.

ness of the customizable documents it provides, Billings' greatest strength is the way it handles time billing. Practically every business accounting package lets you enter time-billing information into time sheets, but Billings Pro lets you track your time in the field and create an invoice directly from the collected information. This feature may sound minor, but it's integral to the way many people bill for services, and no other application mentioned here offers it.

Billings Pro's workflow requires you to set up everything you do as part of one or another project, which means establishing a project and adding Working Slips to it, and then billing based on information you collect in the slips.

## SUMMING UP

AccountEdge remains an excellent application for managing your business finances, and it's one of my personal favorites, but MoneyWorks Gold offers all the accounting features you'll need, albeit at a significantly higher price than for AccountEdge. Billings Pro, which doesn't offer any true accounting features, is the only invoicing application available that lets you create invoices from time-billing information that you collect—and for me, that's a valuable feature. QuickBooks, though good, lags behind the others because it lacks the cross-platform capabilities necessary for any business that relies on both Macs and PCs. ■



SUBSCRIBE TODAY!

# Macworld Magazine on the iPad

Everything you've come to love about Macworld magazine is now available in an Enhanced iPad Edition!

## FEATURES OF THE iPad EDITION

- Optimized for the new iPad
- Integrated Video Clips, Sound Bites, and Multimedia
- High-Resolution Images
- iPad Intuitive Layout
  - Swipe and slide through digitally remastered articles
- Fully Interactive Table of Contents
- URL and Macworld Find-Product Code Supported
  - Links to webpages, app and product reviews
- Bookmark Articles
- Share Content via Twitter and Email

## DIGITAL iPad SUBSCRIPTION

Available through the Apple Newsstand  
Monthly Recurring: \$1.99 per month  
(\$23.88 per year)

## BUNDLE (PRINT AND DIGITAL) SUBSCRIPTION

For a limited time get the Enhanced iPad Edition FREE with any print subscription!

Annual Subscription: \$21.97



Go to [macworld.com/subscribe](http://macworld.com/subscribe) to get it now!



# Tech Tricks for Planning Meetings

Here are three techniques that can make setting up your meetings a little easier.

BY DAVID SPARKS

**D**espite all the technology at our fingertips, the tasks of scheduling and planning meetings are a pain. You can use your Mac, your iPhone, and the Web to make the process go more smoothly.

## AUTOMATE CONFIRMATION

When people schedule meetings far in advance, changes in plans or forgetfulness can cause problems—so send out meeting confirmations on the day before the meeting. Each day, check the next day's scheduled meetings, and send out email reminders to all of the participants.

To automate this process, use a fill-in TextExpander snippet. For instance, when I type `meetingconfirm` in an email window, TextExpander creates a custom email message that lets me fill in the recipient's name, the agenda, and the anticipated length of the meeting.

**Save a proposed meeting time as soon as you send out the first email message so you won't schedule another meeting at the same time.**

## RESERVE MEETING TIMES

Finding a mutually convenient time to meet with someone can be an exercise in frustration. Instead of taking turns suggesting available times, try writing an email message along the lines of "Let's have lunch together. How about Wednesday at Cardiac's House of Cheese at 11:45 a.m.?" Putting the idea of lunch with the relevant details in the first message can reduce subsequent email traffic. In my experience, most people accept the proposed meeting in their first reply.

Another trick is to save a proposed meeting time as soon as you send out the first email message, so you won't be tempted to schedule another meeting at the same time while waiting to hear back from the person you approached earlier. To indicate hypothetical meeting times, I put a question mark in front of the event name, so when I check my calendar

later, I'll know which events are booked and which are still only hypothetical. If the other person writes back and accepts, I remove the question mark; if the person declines, I delete the event.

## USE A WEB SERVICE TO SET UP A BIG MEETING

Try to set up a meeting for six people, and you'll receive an endless stream of messages vetoing schedule suggestions because of various conflicts.

Instead, let a meeting-planning site do the job for you. My favorite, Doodle.com, lets the meeting organizer set several potential blocks of time aside for a meeting. Doodle then either sends email messages to the prospective participants or provides you with a link that you can send out yourself. The meeting participants can then log on to Doodle and identify the blocks of time when they are available. Once everyone has completed this task, the organizer will know exactly when everyone is available. This arrangement works so well that I sometimes set up Doodle events for other people's meetings when I'm an invitee, just to avoid the grief. ■

**Doodle** CREATE DOODLE ACCOUNT SIGN IN

## Schedule an event

1. General ▶ 2. Time proposals ▶ 3. Settings ▶ 4. Invite

### Times

Enter any number of time proposals for each day. If you do not enter an actual time span, the proposed date is shown as all-day.

Switch on time-zone support ▼

	Time 1	Time 2	Time 3
Tue, 3/25/14	10:00 AM	10:00 AM	10:00 AM
Wed, 3/26/14	11:00 AM	1:00 PM	2:00 PM
Thu, 3/27/14	1:00 PM	3:00 PM	4:00 PM

[Add further time slots](#)  
[Copy and paste first row](#)

**ON SCHEDULE** The Doodle online service helps all members of a group find a mutually agreeable meeting time.

# MacBook in the Cloud: Work With the Same Files on Multiple Macs

BY JOE KISSELL

**K**eeping your data and software in sync when you have more than one Mac poses quite a challenge. Apple's iCloud service offers some sync capabilities for passwords and user account data, but it doesn't widely support app data. When you get a new computer, you either have to clone the old drive to the new system or copy non-Mac App Store applications. Also, a Mac laptop has much less storage than its desktop Mac cousins.

But you can make your laptop into the perfect satellite computer with just a few tweaks—and conserve its hard drive space. Here are some tips for syncing your computers with the cloud.

## SYNC SELECTIVELY

Your Dropbox folder lets you store files inside it on one computer and have them appear instantly in that folder on a second system; you can also access them on the Web. And with a paid account, you can sync up to 500GB of stuff.

I pay for a 100GB plan, but I don't want my entire Dropbox on my laptop. The service's Selective Sync option lets me choose specific subfolders to sync from Dropbox on a given system.

To turn on Selective Sync, go to Dropbox's menu bar icon on your Mac, click the Settings gear icon, and choose *Preferences*. Then select the *Account* tab and, under Selective Sync, click *Change Settings*. You can sync entire top-level Dropbox folders, or you can choose subfolders in Dropbox without having to download the folder that contains them. To do the latter, switch to *Advanced View*.

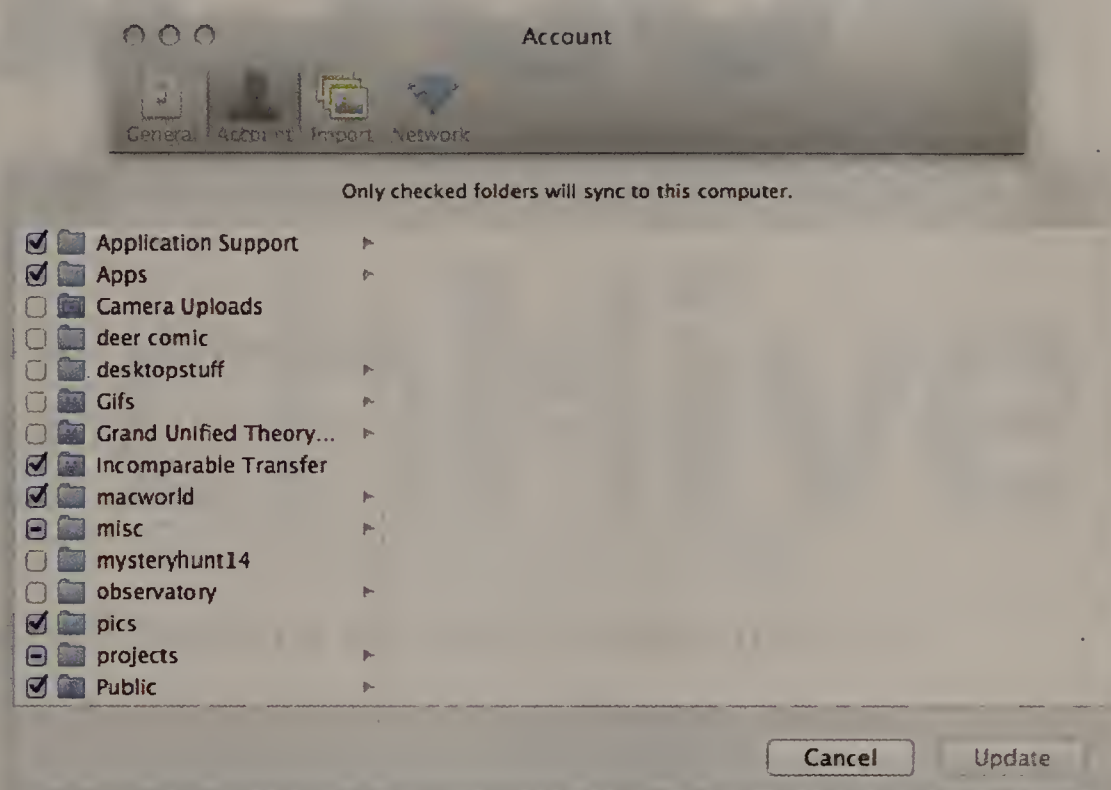
**You can sync entire top-level Dropbox folders, or you can choose subfolders in Dropbox without having to download the folder that contains them.**

## KEEP YOUR APPS IN TUNE

Dropbox is good for a lot more than just saving static files—some apps, like BBEdit, let you sync application support files within the folder. The key to this resides in your computer's Application Support folder, hidden within ~/Library: Your programs use information from that folder to save your preferences, load unsaved data, and more. To sync this information, drag an app's support folder from ~/Library/Application Support to a new Application Support folder in Dropbox.

Other apps provide Dropbox sync support, as well: AgileBits' 1Password offers a Dropbox sync button directly within the application, while launch manager Alfred can store a single preference file on the service.

—JAMES HAMILTON



**PICK AND CHOOSE** Selective Sync lets you decide which Dropbox folders to put on your computer.

## MACBOOK AIR, PHONE HOME

These Dropbox tricks work fairly well to keep a MacBook in sync, but sometimes you need to return to the source. With Back to My Mac, you can access your iMac from your laptop, no matter how far apart the two machines are. When you open a new window on your desktop, any awake and online computers linked to your iCloud account should appear under the Shared pane.

In case Back to My Mac balks, you can set up backup options. Edovia's Screens software for Mac and iOS ([edovia.com](http://edovia.com)) has become my go-to program when Back to My Mac fails, and it's an excellent client. I originally bought the mobile version for my iPhone and iPad, but I've started using Screens more often on my desktop, too.

Whatever your screen-sharing program of choice, Screens is an excellent last-ditch option for tasks you can't quite accomplish on your laptop. ■



# Macworld PODCASTS

*Chris and Serenity discuss the **latest goings-on** in the Apple world.*

Listen at

[www.macworld.com/column/mwpodcast/](http://www.macworld.com/column/mwpodcast/)  
[www.soundcloud.com/macworld](http://www.soundcloud.com/macworld)  
or search for us in the iTunes Store.

hosted by



Chris Breen

&



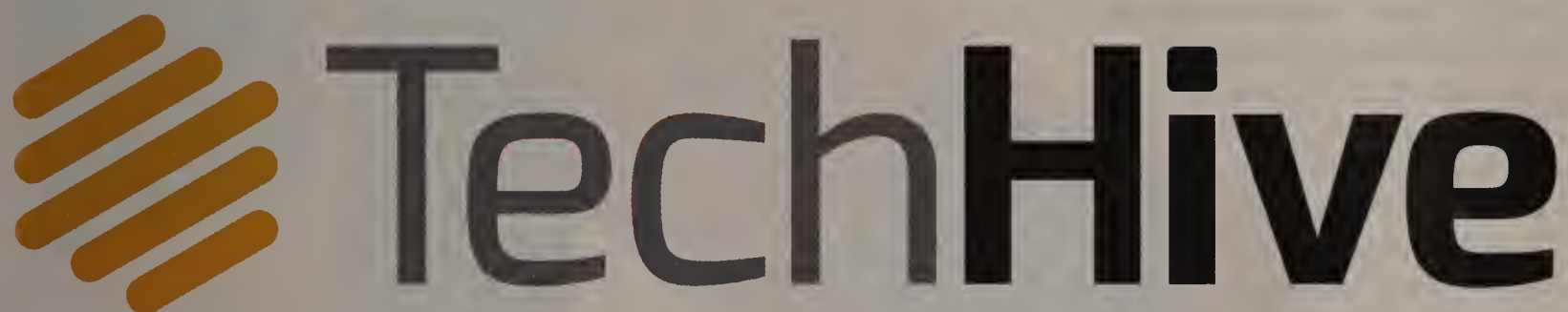
Serenity Caldwell

---

<http://www.macworld.com/column/mwpodcast/>

# Also Catch Clockwise Podcast

by



*Four tech experts and four timely tech topics, all in a podcast  
that's **less than 30 minutes** long.*

hosted by.



Jason Snell

&



Dan Moren

---

<http://www.techhive.com/column/clockwise/>



## How Much Better Is High-Resolution Audio?

Does the greater detail of high-resolution audio translate into an audible difference in quality?

BY IAN PAUL



### SOUNDS GOOD, RIGHT?

The PonoPlayer promises to deliver higher-quality music files than either iTunes or Amazon offers.

**T**he PonoPlayer, a new digital audio player that offers high-resolution digital audio, will begin shipping in October.

The device pairs with a digital music download store filled with high-res audio files in the FLAC lossless format, and it promises better-quality sound than you get from iTunes and Amazon files.

High-resolution audio supposedly matches the quality of analog audio by encoding music files in 24-bit depth and at a sample rate of 192kHz (24/192), as well as in other ranges such as 24/96.

Proponents of high-res audio say that the extra aural bandwidth will let you hear music from classic albums as if they were playing on an analog stereo system.

### PONOPLAYER PROMISES

To get top-notch audio, you need a high-resolution audio source and high-res versions of your recordings—which, in

the case of PonoMusic (the PonoPlayer's maker), will be priced at between \$15 and \$25 per album. In contrast, a copy of the *Frozen* soundtrack costs \$12 to download on iTunes; and many other top-selling albums on iTunes cost \$10 or less.

A music library overhaul is a painfully expensive proposition. Will the improved sound quality justify the expense?

Not really, says digital audio engineer Christopher Montgomery, who heads the nonprofit Xiph.org Foundation, the organization responsible for the Opus, Ogg Vorbis, and FLAC digital audio codecs. Digital audio may have problems, Montgomery contends, but high-resolution 24/192 audio doesn't solve any of them. Instead, he says, when you buy into high-resolution audio, the main thing you get is a crying need for more hard-drive space to handle audio files that are up to six times larger than those on a CD.

Unfortunately you probably can't hear any difference in sound quality between high-resolution audio and a normal CD.

### SAMPLE RATES, BIT DEPTH, AND BIT RATES

Digital audio components fall into three basic categories: sample rates (measured in kilohertz), bit depth (in bits), and bit rates (in kilobits per second). High-resolution audio generally has a sample rate of from 96kHz to 192kHz, whereas CDs are sampled at 44.1kHz.

To capture the humanly audible part of any sound wave, you need a sample rate of a little more than double the highest frequency in the original performance. And since the maximum frequency the human ear can detect is approximately 20kHz, an audio file with a sample rate slightly greater than twice that amount will be indistinguishable to a human listener from one many times

higher. That, not coincidentally, explains the standard CD sample rate.

**Bit depth** refers to the number of computer bits used to capture audio. The larger the number of bits used, the greater the dynamic range of soft to loud sounds an audio file can have. Audio engineers typically use 24-bit sound files during recording and production, and music companies normally produce CDs as 16-bit files.

**Bit rates** are the most widely quoted figure in connection with compressed audio file formats such as MP3, AAC, and Ogg Vorbis. Apple, for example, touts its iTunes Match service as a way to upgrade your music files to a bit rate of 256 kbps. This means that a file uses 256 kilobits or 256,000 bits of data to store one second of audio. The higher the bit rate, the bigger the file—and supposedly, the better the sound quality.

But as Montgomery points out, the numerical argument reckons without the fact that audio captured at 192kHz includes sound frequencies that exceed (several times over) the limits of any person's capacity to hear.

Dan Lavry, founder of Lavry Engineering, a company that specializes in analog-to-digital and digital-to-analog converters, agrees. "The misconception about 192kHz is due to the intuition that more is better... There are many situations where more is better, but sampling [is not one of them]," Lavry says.

In 2007, the *Journal of the Audio Engineering Society* published a study conducted by members of the Boston Audio Society in an effort to determine whether listeners could distinguish between CD-quality and high-resolution recordings (DVD-A and SACD recordings, at the time). In the study, 60 subjects participated in 554 listening trials, during which the researchers asked them to identify whether a particular recording they were hearing was a CD or a high-resolution sound file. Overall, listeners identified the high-resolution recording only 49.82 percent of the time, suggesting that the subjects were guessing rather than basing their choice on detectable differences in audio quality.

## WORTH THE PRICE?

Nevertheless, John Hamm, CEO of PonoMusic, says buying a high-resolution recording is worthwhile. "We've had hundreds and hundreds of people of all ages listen to music on Pono," Hamm says. "We are absolutely comfortable that the vast majority of those people have a much more satisfying and gratifying experience by listening to music in 24/96 and 24/192."

Montgomery counters that a properly encoded MP3 can satisfy most listeners. Other audio experts demur, but many doubt the practical value of the enhanced sound quality of high-resolution audio.

On the other hand, the authors of the Boston Audio Society study suggest toward the end of the paper that sound engineers may put more care and attention into high-resolution recordings than into mass-market CD releases.

So you may get better sound from some high-resolution recordings—but

more because of the way the master file was produced than because of the higher frequency range.

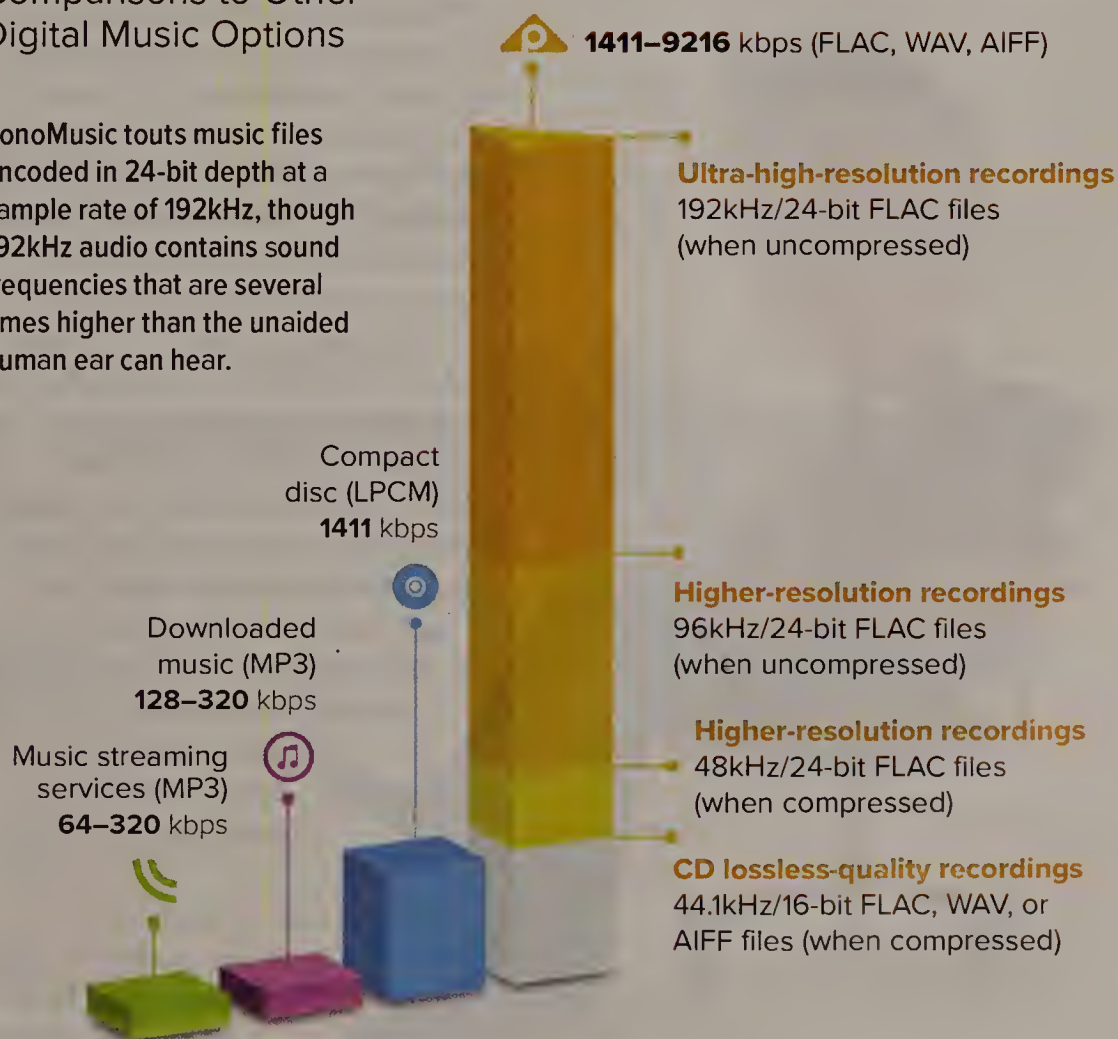
Poorly encoded MP3s, low-quality recording equipment, and the ongoing competition among pop music producers to create the loudest music possible may all contribute to a subpar listening experience. But audio experts maintain that the best way to improve the sound of whatever you're listening to is to invest in a pair of high-quality headphones or speakers.

As for your music files, FLAC recordings (whether made at 24/192 or at CD-quality 16/44.1) may well be worth the price, and PonoMusic's music store won't require you to own a PonoPlayer device to buy music there. Be aware, however, that you can often get the same quality at home by purchasing an audio CD and then ripping it in a lossless format such as the Apple Lossless Audio Codec (ALAC) using iTunes. ■

## PonoMusic Quality Spectrum

### Comparisons to Other Digital Music Options

PonoMusic touts music files encoded in 24-bit depth at a sample rate of 192kHz, though 192kHz audio contains sound frequencies that are several times higher than the unaided human ear can hear.





# Editing Multiple Music Files at Once

Organizing media files, mixed-genre smart playlists, too-long syncs, chronological podcasts, redownloading media, and more.

BY KIRK McELHEARN

## Q&A

This month we consider how to create a smart playlist with specified ratios of songs from different genres—as well as questions about organizing iTunes media files, accelerating slow-syncing iOS devices, and recovering a lost Apple ID password.

**Q:** I recently bought a new MacBook Pro, which I love—but I do miss using MediaMonkey ([mediamoney.com](http://mediamoney.com)) music management for Windows. When I edited a song's title, artist, or genre, MediaMonkey automatically edited the files on my computer the same way. So if I deleted those songs from iTunes and reloaded them, they would be organized the way I wanted them to be. It gave me an easy way to edit multiple music files at once. How can I do this with iTunes?



**CRUCIAL CRITERIA** Set these conditions for a smart playlist that draws music from three other playlists.

**A:** I assume that by *organized* you have in mind the way the files are stored on your computer. iTunes does this if you check a setting in its preferences. Select *iTunes → Preferences*, and then click *Advanced*. Check *Keep iTunes Media folder organized* and then click *OK*.

When you make this change, iTunes may need to move your content to the appropriate folders, which can take a while if you have a lot of files. You'll find your content organized first by artist and then by album in the Music folder; movies have folders for their names; and TV series are grouped first by the name of the series and then by the season.

**Q:** I first bought music and movies from the iTunes Store when I had an AOL account, about ten years ago, but I can't remember my password from all those years ago. The media files are in my iTunes Library, but I don't have access to them because I don't have the password. How can I recover the password?

**A:** For this or any other issue involving passwords for your Apple ID, visit Apple's My Apple ID page at

[iforgot.apple.com](http://iforgot.apple.com). Enter your Apple ID on that page, and Apple will walk you through a procedure to get the password. Unfortunately, the procedure may not work in all cases. If you don't have access to the email address you used, you'll need to answer security questions before proceeding. If you never set up security questions, I'm not sure what will happen.

If you've forgotten your Apple ID, the My Apple ID page can help you identify it. Click *Forgot your Apple ID?* and answer questions regarding your name and email address, as well as prior email addresses. The page will then ask you a number of questions to confirm your identity.

**Q:** I have a smart playlist that contains jazz, rock, and R&B. I'd like to create a smart playlist that has music from the three genres in fixed ratios: 40 percent rock 'n' roll, 20 percent jazz, and 40 percent R&B. Is this possible?

**A:** You can't do this in a single smart playlist, but I've come up with a method that gives you the result you want. First you must create separate smart playlists for each genre. For the first playlist, set the condition *Genre is Rock*, and specify *Limit to 40 items selected by random*.

Next, create a new smart playlist, with *Genre is Jazz* and *Limit to 20 items*

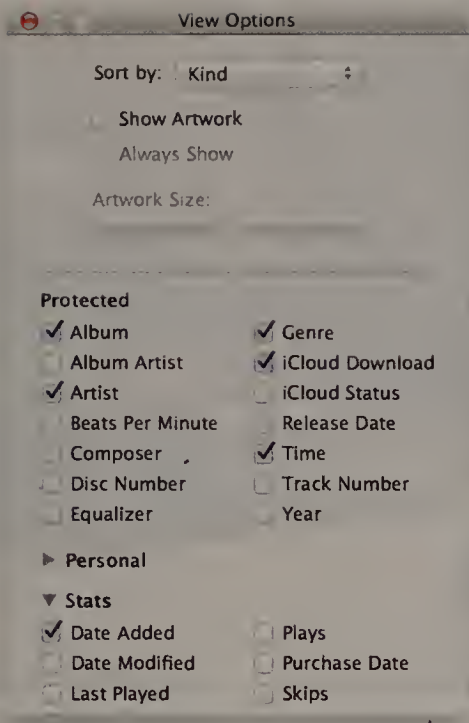
selected by random. Then establish the third smart playlist as *Genre is R&B* and *Limit to 40 items selected by random*. These numbers correspond to the percentages you want to maintain.

Now create yet another smart playlist, and this time choose *Playlist is Rock*. In accordance with that condition, the new smart playlist will draw music from the Rock smart playlist that you created earlier. Click the plus (+) button to the right of that condition and add another one—*Playlist is Jazz*. Do it again to add a third condition, *Playlist is R&B*. Then specify *Limit to 100 items selected by random*. Confirm that *Match any of the following rules* is enabled at the top of the window.

When you activate this playlist, it will choose from a playlist of 100 tracks, drawing them at random from the three genre playlists you created. If you want the content of the three genre smart playlists to change, add a condition such as *Last played not in the last 7 days*. That way, your mixed-genre playlist won't be limited to the same 100 tunes.

**Q:** I have an iPod touch that I use exclusively for music, but it takes a long time to sync. Ideally I could plug in the device and wait 15 seconds or so while it synced only the most recent changes in my iTunes library. Instead, syncing sometimes takes a half hour. Is there any way to fix this?

**A:** I've had this problem on my iPhone, notably since iOS 7 arrived. Just getting to the point where iTunes starts to copy items can take a long time, and occasionally it copies hundreds of songs that haven't changed since the previous sync.



**IMPROVED VIEW** To display a Date Added column in iTunes, click the corresponding option here.

may have led to some corruption. I suggest that you take the same steps I did: Restore your iPod touch, sync all your music, and henceforth never stop a sync that's in progress. Syncing an iPod touch will never be as fast as syncing an iPod classic, but you may be able to avoid the very slow syncs you've been experiencing.

**Q:** I subscribe to multiple podcasts, which I listen to on my iPod classic. I can play them in chronological order

I think, first, that iOS device syncing has a lot of flaws. But I also suspect that some sort of database file on iOS devices can get corrupted if you interrupt syncs before they finish. I restored my iPhone a few weeks ago, and I now take particular care to let the sync finish before I unplug the phone. In the past I occasionally clicked the X icon in the iTunes LCD to stop syncs, and doing so

individually (in the order Podcast A day 1, Podcast A day 2, Podcast A day 3, ...) but not as a group (for example, in the order Podcast A day 1, Podcast B day 1, Podcast C day 1, ...). How can I set up the latter order?

**A:** A smart playlist can solve this problem. Create a new smart playlist (*File → New Smart Playlist*), and set the first condition to *Media Kind is Podcast*. If you like, you can limit the playlist to a specified number of items. To save the smart playlist, click OK.

Select the playlist in iTunes, and press ⌘-J to display the View Options window. Check the *Date Added* item, and close the View Options window. Click the column header above *Date Added* in the playlist's window to sort by that date. Click again to sort in the opposite direction. (You can arrange for the playlist to display and play podcast episodes in chronological order or in reverse chronological order.)

Sync this playlist to your iPod classic, and you'll be able to play the podcasts in order. I also recommend setting a second condition, in addition to *Media Kind is Podcast*. If you set *Plays is 0*, any podcast you've listened to will cease to appear in the playlist. As you add new podcast episodes to your iTunes library, they will automatically appear in this playlist. ■

## iPODS: CURRENT LINEUP

PRODUCT	SPECS	RATING	PRICE <sup>1</sup>	DISPLAY	MORE INFO
iPod Classic	160GB	★★★★	\$249	2.5-inch color	go.macworld.com/classic2
iPod Touch 5th Generation	16GB	★★★★	\$229	4-inch color (Retina)	go.macworld.com/touch516
	32GB	★★★★½	\$299	4-inch color (Retina)	go.macworld.com/touch5
	64GB	★★★★½	\$399	4-inch color (Retina)	go.macworld.com/touch5
iPod Nano	16GB	★★★★	\$149	2.5-inch color	go.macworld.com/nano7
iPod Shuffle	2GB	★★★★	\$49	None	go.macworld.com/shuffle4

<sup>1</sup>All prices are Apple's prices.



# Amazon's Fire TV Aims to Meet or Beat Apple TV

The battle for users' living rooms is now clearly under way.

BY DAN MOREN

**T**he recently introduced Amazon Fire TV is a lot like the Apple TV of the past few years. Now is the time for Apple to release a revised version that keeps it (at least) one step ahead of its competitor.

## FIND AND SEEK

The Fire TV doesn't offer the breadth of content that Roku and the Apple TV do, but Amazon is emphasizing discoverability—making digital video content easier to find by avoiding countless menus and sub-

menus, and by minimizing users' need to tap out search terms on a controller.

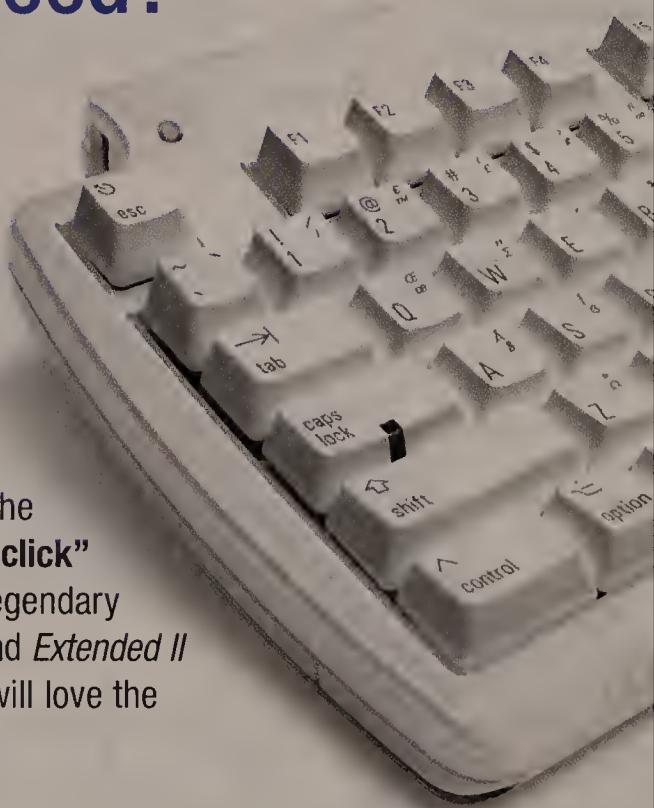
If the Fire TV's voice-search capabilities work well, they may help the box one-up both the Apple TV and Roku. Dedicating voice functions to search also avoids the problem of unwanted sound (especially

from the content you're watching) potentially confusing the voice interface.

Observers have long speculated on the possibility that Apple may incorporate Siri into the Apple TV. That Apple hasn't done so yet probably means either that it is still settling on the right way to proceed or



## Remember when typing felt good?



Mac users who crave the satisfying "click" of Apple's legendary *Extended* and *Extended II* keyboards will love the Tactile Pro.

tactilepro<sup>tm</sup> [www.matias.ca](http://www.matias.ca)

This is **Richard**. He knows it's his job to teach his son **Scotty** what this whole gaming thing is about. The age rating helps him **pick the right games**, but being a good dad means he always wants to know more.

That's exactly what the **ESRB's rating summaries** are for.

Search for a game's rating summary at **ESRB.org**.

*Rich H.*  
Lafayette, IN





that it hasn't quite overcome its own mindset that the Apple TV is a hobby.

Amazon has also begun to focus on gaming—which poses a challenge to Apple (whose mobile devices are a major gaming platform) as well as to Microsoft and Sony, and their gaming consoles.

In games, as in voice recognition, Apple has led Amazon; and yet it hasn't focused on bringing those capabilities to its set-top box. Arguably, Apple's success at gaming on iOS is more an accident than a savvy business move: The company has had little interest in the market on the Mac. And its attempts to bolster gaming—Game Center, for one, and more recently support for iOS game controllers—have been half-hearted. Much of the success of iOS gaming may have occurred in spite of Apple's efforts rather than because of them.

#### BOXING MATCH

The Fire TV gives Amazon the ability to reap the benefits of having witnessed

**In games, Apple has led Amazon; and yet it hasn't focused on bringing those capabilities to its set-top box.**

where the efforts of Apple, Roku, and Google have succeeded and failed in the recent past, without having struggled through any early missteps of its own. Consequently the fact that the new device is on a par with the current state of the art is hardly a surprise.

That's not to say that Amazon's set-top offering is superior. The Fire TV has both advantages (including the use of Amazon's own streaming service, which is offered with a recurring monthly subscription) and disadvantages (including access to a smaller pool of content, plus the absence of any feature that is as singularly compelling as AirPlay).

Nevertheless, despite characterizing

the Apple TV as an area of "intense interest" in recent times, Apple has yet to put its money where its mouth is, and show us what's

so interesting about the device.

In years past Amazon has demonstrated that it doesn't mind bringing an early version of a good but imperfect product onto the market, and then quickly revising and improving it. Think of all the changes the Kindle has undergone in the past seven years.

Apple likewise follows an iterative model, but it prefers to roll out devices (like the iPod and the iPhone) that feel complete from the get-go and then to upgrade them as technology improves.

Over the past decade, we've seen big names make plenty of forays into this market, but now it appears that the battle is finally beginning in earnest. ■

# Eazy Draw®

Free Market  
eazydraw.com

App Store  
(remember spelled with a "z")

Icons  
Illustrations  
Text Layout  
Logo Design  
Web Graphics  
Charts & Diagrams  
Technical Drawings



**New with version 6:** brushes, custom tool palettes, improved brush and pencil tools for creative sketching with pen and tablet, hot keys, node edit and much more.

© EazyDraw is a registered trademark of Dekorra Optics LLC.

## Vector Drawing App



## Mac OS X Hints

The insider tips you won't get from Apple.

BY DAN MILLER

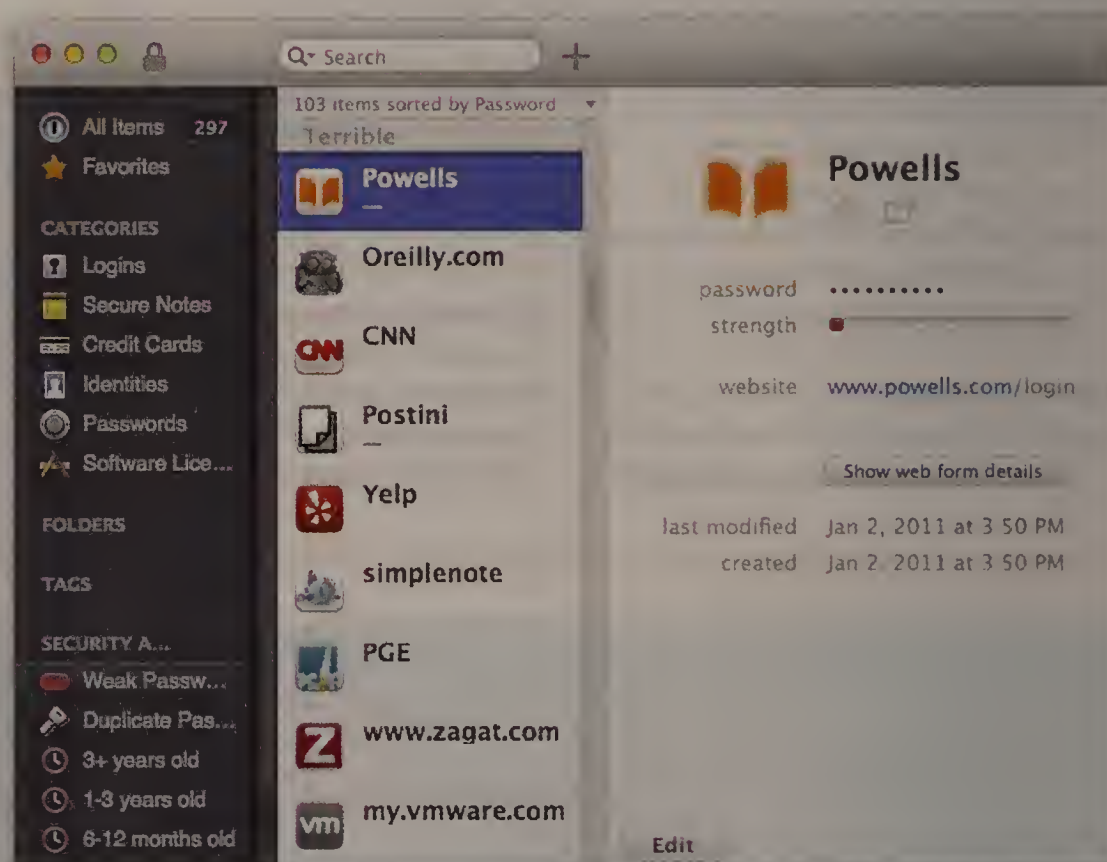
### FIND AND DELETE DUPLICATES IN 1PASSWORD

Lately we've been inundated with one news story after another about this or that website being hacked, and all of its user IDs and passwords falling into the hands of ne'er-do-wells. It has never been more important to (a) employ good, strong passwords and (b) use some kind of password manager to keep track of them all.

That's why we like the advice that Gabe Weatherhead recently posted over at Macdrifter.com: He pointed out that 1Password ([go.macworld.com/1password4](http://go.macworld.com/1password4)), the password manager of choice for many *Macworld* staffers, offers some excellent tools for not only storing and recalling your assorted passwords but also determining whether they're any good.

Specifically, he reminded 1Password users of the app's built-in Security Audit tool. Open that section of the sidebar, and you can view lists of passwords that the app considers weak (actually, it classifies them as Terrible or just Weak), those that are duplicates, and those you haven't changed in a while. (You can see those that are more than six months old, more than a year old, or more than three years old.)

But there's a more granular way to check on duplicates of specific passwords: Create a smart folder. To do so, select *File → New Smart Folder*. In the search bar that appears, select *Password* from the drop-down menu, and then type in one of the passwords that you know you use too often. 1Password will then show you a list of all the accounts that currently use it.



**PASSWORD AUDIT** 1Password can assess your passwords' strength and find old ones that need updating.

Once you have that list, you can use 1Password to log in to those particular sites and change each password to something strong and unique.

### ENCRYPT PDFs FROM PREVIEW (AGAIN)

Previously you could encrypt a PDF file from within Preview by way of the standard Save dialog box. In recent versions of Preview, however, that Save option no longer produces a dialog box. (It just saves the file.)

You still have a way to encrypt PDFs by saving, however. To find it, first hold the *<Option>* key as you open the File menu. The menu's Duplicate option changes to *Save As*; click that, and

you'll get the same opportunity to select the *Encrypt* checkbox. When you do so, you'll be prompted to add a password for the PDF file. (Alternatively, you can select *Duplicate* and then choose *Save* on the resulting copy of the file; in this case the Save dialog box will offer the *Encrypt* checkbox.)

### CHANGE RTF MARGINS IN TEXTEDIT

If you're editing a Rich Text Format document in TextEdit, you can customize the margins so that the document will print the way you want it to.

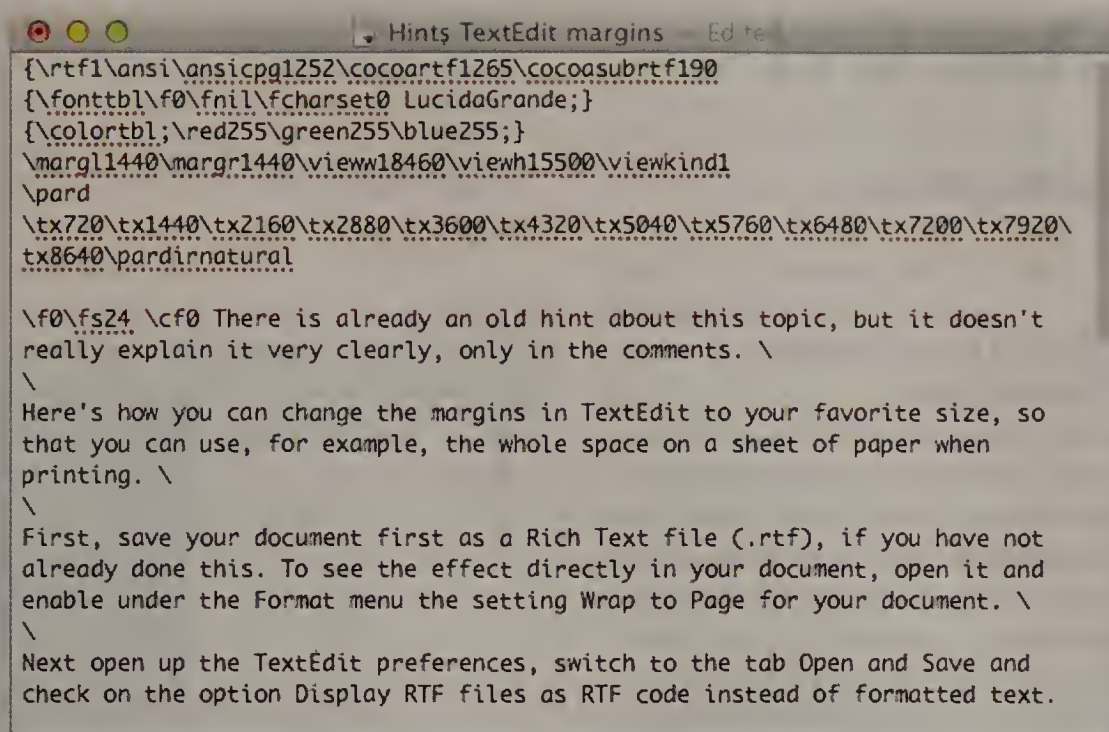
The first step is to save your document as a Rich Text Format file (by adding the .rtf extension when you

save) and close it. That done, reopen the document and enable *Format → Wrap to Page*. Now open TextEdit's preferences, go to the *Open and Save* tab, and select *Display RTF files as RTF code instead of formatted text*.

When you open the document again, you'll see at the top of the file the raw code that defines how the document appears. Look for a row that includes 'margl1440\margr1440'—this code defines the left and right margins. (That's what the *l* and *r* after *marg* stand for.) You can customize those strings to define new left and right margins. And logically enough, you can add new specifications—'margt' and 'margb'—to define top and bottom margins; the proper order is 'margl', 'margr', 'margb', and then 'margt'.

The number units in use here are *twips*; one twip is equal to 1/1440 inch. So, 360 twips produce a 0.25-inch margin, 720 twips represent 0.5 inch, 1440 twips are one inch, and so on.

When you're done tweaking the raw-code settings, save the modified document and then turn off the *Display RTF files as RTF code instead of formatted text* option. When you next reopen the document, your custom margins should be in effect.



## USE YOUR FACE AS A PREVIEW SIGNATURE

*Hints* reader chaunceyjb found one of those "It's cool, but is it useful?" tricks that we sometimes run across in OS X.

You probably know that you can insert a digital signature into PDFs in Preview. You sign a piece of paper, and then you capture the signature in Preview by selecting *Tools → Annotate → Signature → Create Signature from FaceTime HD Camera (Built-in)* (or whatever your Mac's camera is called) and holding that

**TEXTEDIT TWEAKS** To change an RTF document's margins, dig a little into the file's code view.

signed piece of paper up to the camera.

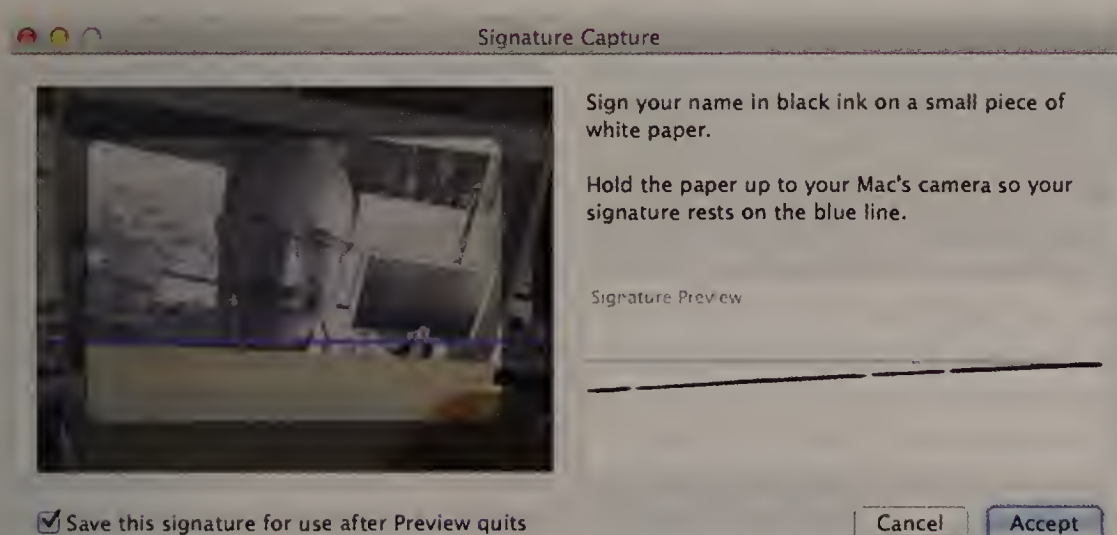
So what's the trick? Well, chaunceyjb discovered a novel variation: Instead of holding up paper, you can present your own smiling mug to the camera. Under the right conditions, Preview will save a pen-and-ink-style image of your face, which you can then insert into PDFs.

That "right conditions" part is critical, though. Several *Hints* readers weren't able to get chaunceyjb's tip to work. You need the appropriate lighting and background for it to work as described (lots of the former on your face, something light for the latter). Readers also report that holding a piece of paper so that its top edge lines up with the blue line in the signature-preview screen helps, too. (One other variation: Print out a black-and-white photo of your face and hold that up to the camera.)

The point is that Preview is doing some rudimentary image-processing here, looking for a high-contrast image (dark ink on white paper). So you have to create those specific photographic conditions for your face to trick Preview into perceiving it as a signature. ■

**SAY CHEESE** Under the right conditions, Preview may be able to accept your portrait as a signature.

**For Preview to recognize your face, you need to have the appropriate lighting and background (lots of the former on your face, something light for the latter).**





# Mac 911

Solutions to your most vexing Mac problems.

BY CHRISTOPHER BREEN

## Speed Up a Sluggish iPhoto Library

**Q:** I am a casual photographer who has amassed about 10,000 pictures in my iPhoto library. iPhoto now runs so slowly that it is essentially unusable. I just want to organize photos by date and event, and do very light editing. What do you recommend that's faster?

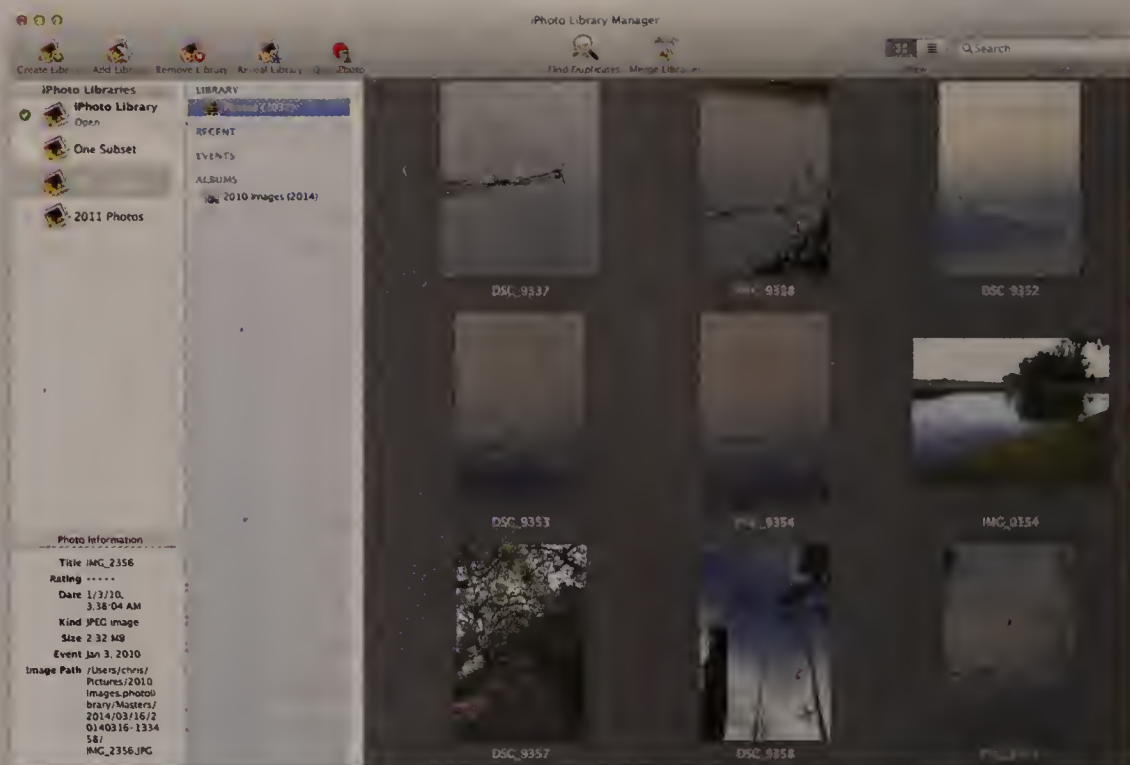
Marty Schettler

**A:** The higher-priced spread will be overkill—Apple's Aperture and Adobe's Lightroom and Photoshop offer more features and complexity than you need. Even Photoshop Elements 12 may demand a longer leap than you wish to make.

Although you could look at some less expensive and less complicated options such as the \$20 Lyn ([www.lynapp.com](http://www.lynapp.com)) or the \$30 Pixa ([www.pixa-app.com](http://www.pixa-app.com)), or even the free but kind of clumsy and ugly Picasa ([picasa.google.com](http://picasa.google.com)), I suggest that you stay largely where you are—running iPhoto but with the help of Fat Cat Software's \$30 iPhoto Library Manager ([www.fatcatsoftware.com](http://www.fatcatsoftware.com)).

I suggest this approach because you seem to be familiar with iPhoto and, I presume, you've organized your photos in a way that pleases you. Why start over with another application? Where iPhoto fails is in its lack of responsiveness. With iPhoto Library Manager you can continue to run iPhoto, but you can use it to create multiple smaller libraries, which takes care of the speed issue.

Think about how you'd like to split up your library. For example, you might wish to gang together images by their years, by the camera you used, or by face or location. Once you've made that decision, launch iPhoto and choose **File** → **New Smart Album**. In the sheet that appears, configure the conditions to



**SMALLER AND FASTER** Manage smaller image libraries with the iPhoto Library Manager utility.

match your organizational strategy: For instance, you'd set *Date is in the range 1/1/2010 to 12/31/2010* to gather images created in 2010. Assign a name to your smart album and click **OK** to create it.

Now launch iPhoto Library Manager and click the **Create Library** button in the top-left corner. Give the album a descriptive name—**2010 Photos**, for example—and click **Create**.

Select the *iPhoto Library* entry (this item reflects your current iPhoto library plus all the events, albums, projects, and slideshows it contains) and then locate the smart album you created. Drag this album to the album you made in iPhoto Library Manager. It will then copy those images to a new album (this procedure can take a long time and tie up your Mac if you're moving a lot of images). Repeat the process if you want to create additional libraries (see "Smaller and Faster").

If you simply want to browse your images, you can do that directly within iPhoto Library Manager: Launch the app

and select an album. The images it holds will appear as thumbnails to the right.

When you want to work with one of these libraries in iPhoto, you have two options. The first is to launch iPhoto Library Manager and double-click the library you want to view; it will open in iPhoto. The second is to hold the **<Option>** key while launching iPhoto. Do so, and you'll be prompted to choose a library.

## Share Presentations in Messages

**Q:** I'm giving a presentation to a remote group soon and, as in the past, I was going to use Messages to do that. Now, in Mavericks, it doesn't seem to work. What am I doing wrong?

Keith White

**A:** The glib answer is "You're running Mavericks." The less-glib answer is that Messages' iChat Theater feature is gone in the Mavericks version.

For the “Wait, what?” crowd, allow me to explain. In iChat and later in Messages prior to Mavericks, you could share a Keynote presentation by having a copy of Keynote on your Mac, engaging in a video chat (both parties had to be on the same service, namely AIM, Bonjour, or Jabber, but not iCloud), and then dragging a Keynote file into the bottom half of the video-chat window. The presentation would then appear on the other person’s Mac, with a small video window of the presenter. Under Mavericks, in contrast, if you attempt to do this you get only an option to send the file to the other person.

My hope is that Apple hasn’t gotten around to reinstating this feature but intends to do so, as I’ve found it useful when conducting remote presentations.

What are your alternatives? If you like doing this kind of thing through Messages, then I’d suggest that you install a copy of Mountain Lion and Keynote on another drive connected to your Mac. Boot from that drive and use Messages as you once did. The person on the other end doesn’t have to be running Mountain Lion; even if they’re using Mavericks, they’ll still see your shared presentation.

If you’re not committed to Messages, take a look at Zoom ([zoom.us](http://zoom.us)), an online meeting service that’s free for up to 25 participants. (Group meetings are limited to 40 minutes, but one-to-one meetings can run for an unlimited amount of time.) Zoom lets you share a specific window on your screen (which would be your open Keynote window), and it displays your video image as you talk. You must register a free account and allow Zoom to install an app, after which you invite people to your meeting. When they click the meeting’s link, their default Web browser will launch, and then they too must download and run the Zoom app (though they’re not required to have an account).

## Get Bodacious Backup for Only 20 Bucks

**Q:** I have a Mac in my home office that I’d like to configure so that it can back itself up via Time Machine, but also

back up two other computers on my local network. I know that I could use Apple’s Time Capsule, but I already have spare hard drives that I could devote to the job. Any suggestions?

Gene Thomas

**A:** I have a \$20 solution I think you’ll like a lot—OS X Server. Whoa, hang on, I know that hearing those words causes some people to duck and cover. But I’m not tossing you headlong into the geek goulash. I’ll have you in and out in a jiffy.

You’ll find OS X Server for Mavericks on the Mac App Store. Once you’ve downloaded it, attach a backup drive to the Mac that’s going to run Server. Use Disk Utility to format the drive as a Mac OS X Extended (Journaled) volume.

Now launch Server, select the *Time Machine* service on the left side of the Server window, and flip its switch to *On*. Click the plus (+) button at the bottom and then click the nearby *Choose* button. Navigate to your backup drive; this will be where your networked volumes store their backups. Click *Create*, and that volume will appear as a backup destination (see “Serving Your Backup Needs”).

Move to each Mac on your network that you want to back up, and click the *Time Machine* preference within System Preferences. Click *Select*, and you’ll spy the drive you just configured for Server backup. Select it as a destination for each of your networked Macs; Time Machine will start backing them up to the drive.

The Mac that’s running Server has to stay on while other Macs are backing up

to it—otherwise Time Machine on the networked Macs won’t find the backup destination. It’s best to run Server on a Mac that uses minimal power—a Mac mini, say, rather than an old Mac Pro.

## Create a Reminder on Your Mac in an Instant

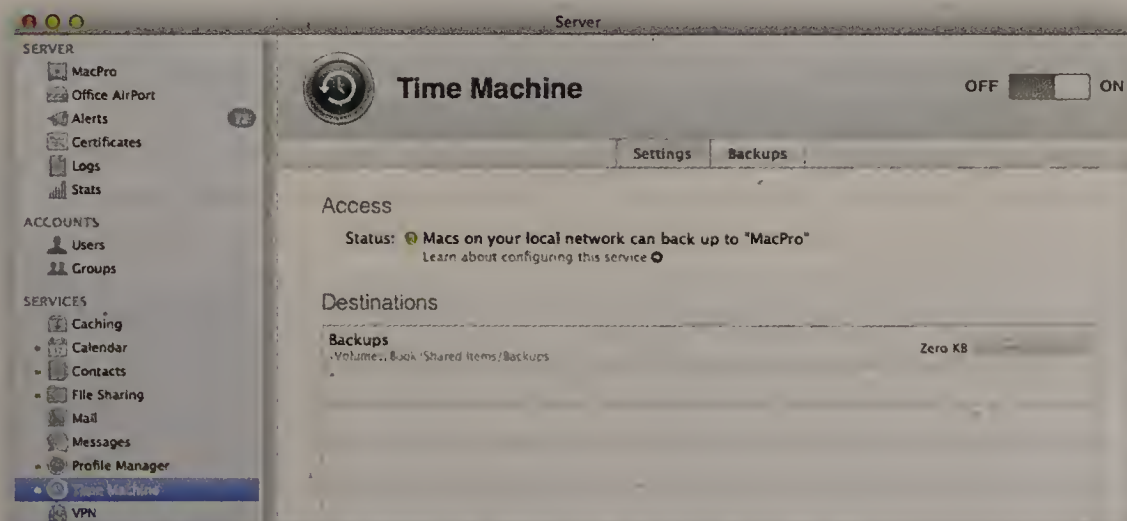
**Q:** I’m accustomed to creating quick reminders on my iPhone by using Siri. Obviously Siri isn’t available on my Mac, but is there an easy way to quickly create a reminder without having to launch the Reminders app?

Robin Lee

**A:** Launch Automator, and in the workflow template, choose *Service*. At the top of the workflow, configure the pop-up menus to read *Service receives no input in any application*. Select the *Calendar* library in the leftmost pane, and from the *Actions* pane to the right drag *New Reminders Item* into the workflow area. Click *Options* in the action, and enable *Show this action when the workflow runs*. Save and name your workflow—**Quick Reminder** has a nice ring to it.

Launch System Preferences, select *Keyboard*, click the *Shortcuts* tab, and choose *Services* in the pane on the left. Locate your Quick Reminder entry near the bottom of the services list, click to the right of its name, and enter a keyboard shortcut; I’ve used ⌘-Control-R.

Now when you want to create a new reminder without opening the app of nearly the same name, press that shortcut.



**SERVING YOUR BACKUP NEEDS** OS X Server provides an inexpensive network-backup feature.



You'll get a New Reminders Item window that contains 'Title', 'Add to', 'Priority', and 'Due date' entries. Fill it out in a way that makes sense to you (if you've enabled the 'Due date' option, you can add an alarm) and click *Continue*. The reminder will be added to the Reminders app.

## Dismiss Mac App Store Notifications

**Q:** Every time I start up my Mac, I see an alert about application updates waiting for me. Some of them I don't want. How can I shut off these alerts?

David Gilbert

**A:** Start by launching System Preferences, selecting *App Store*, and disabling *Automatically check for updates*. Do this, and the nudging stops. Of course it also means that you may miss out on some important updates. To avoid that, you might create a weekly calendar alarm or reminder that gently suggests that you check for app updates manually. You do so by selecting that same *App Store* preference and clicking the *Show Updates* button.

Within the App Store application, click the *Updates* tab, and locate updates that appear under the Software Update heading. Click the *More* link and then <Control>-click (right-click) any updates you don't want, such as printer-driver updates you'll never use. A *Hide Update* command will appear; select it, and your unwanted updates vanish. (You can make them reappear by choosing *Store* → *Show All Software Updates*.) This option isn't available for all updates: Third-party updates will display no such command and will remain in the list.

You can also hide items in the Purchases tab—something that you might want to do if you never intend to install an application that you bought years ago. Simply <Control>-click (right-click) an item in the list and choose *Hide Purchase*. (You can unhide these items by choosing *Store* → *View My Account*, logging in to your account, locating the Hidden Purchases entry, clicking *Manage*, clicking the *Unhide* button that appears next to each hidden application, and clicking *Done*.)

## Mac 101

### Make Exported iPhoto Image Titles Sticky

**Q:** When I add a title to a photo in iPhoto and then drag that photo to the desktop, the file reverts to its original name, such as 'IMG\_0697.jpg'. Is there a way to title an image in iPhoto and make that name stick when I export it?

Ed Dorroh



**A:** There is, and you've unwittingly uttered the key word—*export*. As you've observed, when you drag a file from iPhoto to the desktop, it retains its original filename. An image that was originally in the JPEG or PNG format also retains that format. Raw images convert to JPEG images. Any metadata that you attached to the image—a title and description, for example—vanishes.

However, if you instead use the Export command (*File* → *Export*), you can export images with your added information. Choose that command, and in the resulting Export window make sure that the File Export tab is selected; from the File Name pop-up menu, choose *Use title*. If you'd like to embed title, keyword, and location metadata in the image as well, enable the appropriate checkboxes. When you have configured everything to your liking, click *Export*. The program will export your selected images, and each photo will bear the title you've assigned to it.

## Set Up iOS Calendar Events the Quick and Easy Way

**Q:** Why does it take so much work to create an event in my iPhone's Calendar app? I'm tired of tapping the plus button and entering the event's day, time, details, and so on. There must be a better way!

Andy Gillman

**A:** As a matter of fact, you have a couple of better ways. The first is to use Siri. Rather than launching Calendar, tapping the plus, and then going through the machinations to create an event as simple as a Friday lunch meeting with your cousin Jo-Jo, just press and hold the *Home* button and say, "Schedule lunch with Jo-Jo on Friday at 1 p.m." Siri will confirm the details and schedule the event when you give it your okay.

It's possible, however, that you'll want to create an event in a place where talking to your device would be rude (yes, such places still exist). Although the following solution is not as complete

as the standard Calendar procedure, it cuts out a couple of steps.

On an iPhone, launch the Calendar app, navigate to the day of your planned event, and tap and hold on the screen. A New Event block will appear. Drag it to the time of the event. (In Day view you can also drag it to the right or left side of the screen to move forward or back a day at a time, respectively.) When you do, the Add Event screen appears with the date and time filled in. If you rotate your phone into landscape mode so that it displays Week view, you can tap and hold on the screen to make a New Event bubble appear. In this view you can drag it to any day within the week (or place it in the All Day area to create that sort of event).

The iPad procedure is similar, with the difference being that you can choose Day, Week, Month, or Year view by tapping the appropriate button at the top of the screen. Day view and Week view are the most efficient in that they allow you not only to create an event on a particular day but also to drag it to the time you'd like the event to start. ■

# Screw everything. Fix it yourself.



We have the perfect tools for every repair, quality replacement parts, and easy-to-follow repair guides to see you through.

Pro Tech Toolkit

Visit [ifixit.com](https://www.ifixit.com) to get started.



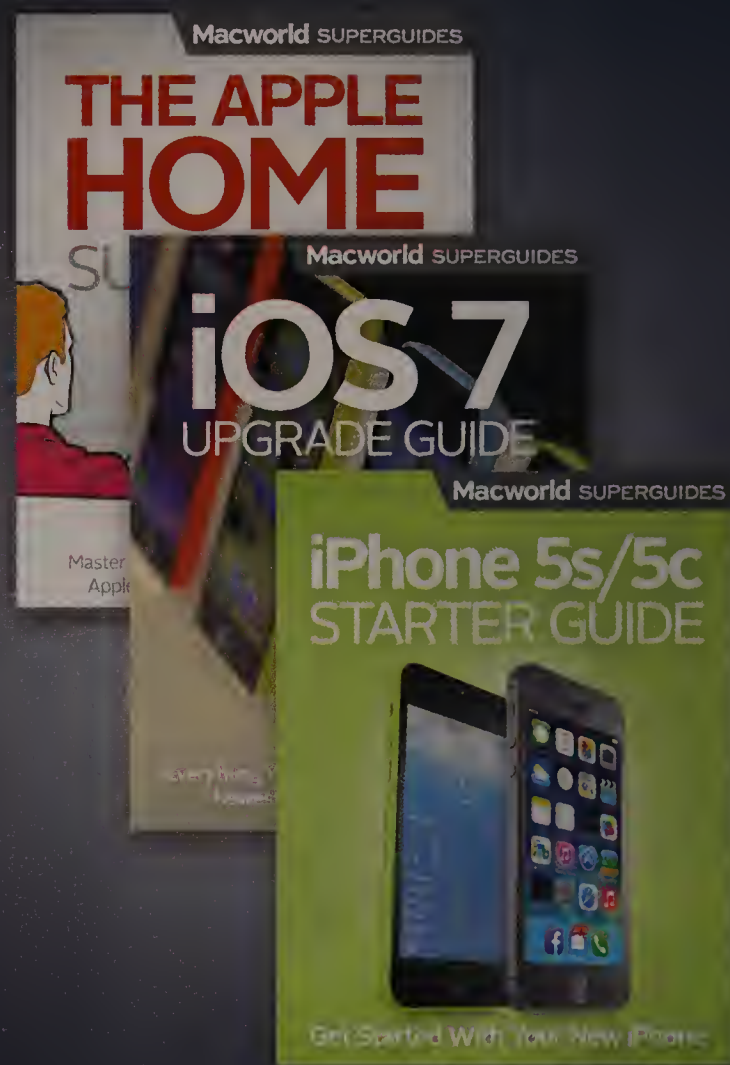


# Advertisers Index

Interact with the companies whose products and services are advertised in Macworld.

ADVERTISER	INTERACT	PAGE NO.
<b>B</b>		
Big Ass Fans	haikufan.com	C2
Blackmagic Design	blackmagic-design.com	19
<b>D</b>		
Dekorrra Optics EazyDraw	eazydraw.com	83
Dollar Photo	dollarphotoclub.com	23
DriveSavers Data Recovery	drivesavers.com	91
<b>E</b>		
Eagle Tech USA	eagletechusa.com	6
EARBUDi	earbudi.com	91
ESRB	esrb.org	35
<b>F</b>		
FatCow	fatcow.com/macworld	7
<b>I</b>		
ibattz	ibattz.com	9
iFixit	ifixit.com	89
<b>J</b>		
JDIBackup.com	jdibackup.com	27
<b>K</b>		
Kenu	kenu.com	29
<b>M</b>		
Mac of All Trades	macofalltrades.com	91
MacTechs International	mactech.com/bootcamp/macworld	58-59
Matias Corporation	matias.ca	82
Micromat	micromat.com	C4
<b>N</b>		
Netis Systems	netis-systems.com	24
<b>O</b>		
OCZ Storage Solutions	ocz.com	4
OtherWorldComputing	macsales.com	15
Original iPhone Film Festival	originaliphonefilmfest.com	8
<b>P</b>		
Pelican Products	pelican.com/progear	3
<b>R</b>		
Rain Design	raindesigninc.com	91
Rosetta Stone	rosettastone.com/traveled	41
<b>S</b>		
SellYourMac.com	sellyourmac.com	C3
SMK-Link	smk-link.com/umk	25
Stand Up To Cancer	standup2cancer.org	33
<b>T</b>		
The Nature Conservancy	plantabillion.org	51

## Macworld SUPERGUIDES



Master your Apple hardware and software with these in-depth guides from *Macworld* editors. Download free samples of our titles now.



[macworld.com/superguide](http://macworld.com/superguide)





NEW



NEW

## Take it easy.

iSlider - the adjustable pocket stand for all iPad models. [www.raindesigninc.com](http://www.raindesigninc.com)

 **rain**

## m mac of all trades

Your choice for buying and selling used Macs.

- Unbeatable Pricing
- Mac-Estimator, our FREE pricing tool for sellers
- 90-day warranty with a 15-month option
- Volume discounts
- Volume on-site packaging & removal
- School POs (restrictions apply)



Visit us online today  
[macofalltrades.com](http://macofalltrades.com)

## Snap-On Earloops for iPhone® & iPod®



Finally, earbuds stay in your ears!

**EARBUDI.com**



## We can save it!®

Want proof? [www.drivesavers.com](http://www.drivesavers.com) 800.440.1904

© 2014 DriveSavers, Inc. All Rights Reserved. DriveSavers, Data Recovery, the DriveSavers logo and "We can save it!" are registered trademarks of DriveSavers, Inc.

## Yup, It's a case for your headphones

Quality cases designed to hold your gear

**CASEBUDI.com**







# Clay Shirky

Writer, teacher

## WHAT DO YOU DO?

Since 2001, I've been teaching at NYU, working on the social and economic effects of the Internet. I wrote a couple of books about social media—*Here Comes Everybody* and *Cognitive Surplus*.

## WHAT HARDWARE DO YOU USE?

Right now, I have a Chromebox as my work machine, an 11-inch **MacBook Air** as my home machine, a 15-inch **MacBook** as the family computer, and an Ubuntu netbook as the 3D-printer base station. The kitchen machine is a cheap Chromebook, which is fine for recipes and playing NPR. My other work machine (at my office) is a 15-inch MacBook with a dead screen that I use as a desktop. My actual “carry it with me” laptop is another 11-inch MacBook Air.

I have two **Kindle Paperwhites** (I lost one, replaced it, and then found it again).

The Kindle's best feature is that it offers no way for me to check my email or look things up on Wikipedia.

I carry two phones. My Web phone is a **Galaxy S**, which has a physical keyboard. Like most “bar of soap” designs, it's optimized for lots of things, with the notable exception of synchronous voice. I also carry an **LG flip phone**, which is useless in every respect except two: Call quality is great, and the battery lasts for days.

## AND WHAT SOFTWARE?

A working machine for me has a browser, a Telnet window, and a text editor. My writing tool from 2003 to 2012 was **BEdit** with WebDAV (lately Drop-box). In 2012, I moved my writing to **Google Docs** and my coding to **Sublime Text**. (My browser is **Chrome**.)

I have never been That Guy with

strong, thoughtful musical tastes and well-groomed playlists. I'm currently happy with **Amazon Cloud Player**, **Banshee**, **iTunes**, **Pandora**, **Rdio**, and clicking on random **YouTube** and **SoundCloud** links my friends post.

## WHAT IS YOUR DREAM SETUP?

I dislike what I've seen of Mavericks. So my next “carry it in my bag” machine will probably be either an Acer Chromebook or a Lenovo running 13.04.

That said, I actually don't want a “dream setup.” At the end of every year, I junk a lot of perfectly good habits in favor of awkward new ones. I have to be willing to bang around with things I don't understand until I do understand them.

INTERVIEW COURTESY OF **THE SETUP**  
(USESTHIS.COM; TWITTER: @USESTHIS)

# SellYourMac.com

## We Buy and Sell Apple Products



## Cash in your Apple Products Today!

Receive a \$15 bonus by using promo code "macworldjul14" \*

\*Code good through 7/31/14 on items \$25 or greater value



@sellyourmac

facebook.com/sellyourmac





# 25 YEARS 25 DOLLARS 25 DAYS



Since Micromat first opened its doors in 1989, we've been creating repair and diagnostic tools for Macintosh users, consultants and technicians. In fact, we were the first company to offer these types of tools to the public. 25 years later, we're still creating the tools that have helped millions of Mac users get their computers back in order and running at their very best.

And to celebrate those 25 years of business, we're making a very special offer: For 25 days we'll be offering any of our products for the unheard-of-price of only \$25 each. But hurry up before this offer expires. We won't be doing anything like this again until our 50th anniversary. And by then we'll probably be charging twice the price.



Learn more and order at  
[www.micromat.com](http://www.micromat.com)

Offer available July 1 through July 25, 2014. Cannot be combined with other offers. See website for details.

©2014 Micromat Inc. All rights reserved. Techtool is a registered trademark of Micromat Inc. Macintosh is a registered trademark of Apple Inc.